

# ENIGMA 2000 NEWSLETTER



<http://www.enigma2000.org.uk>



**Onboard a U.S. Navy P-8A Poseidon reconnaissance plane during a mission to observe the build-up and militarization of reefs and islands by China in 2018.**

<https://www.msn.com/en-gb/news/world/us-warships-enter-disputed-waters-of-south-china-sea-as-tensions-with-china-escalate/ar-BB131c25?ocid=spartanntp&fullscreen=true#image=2>

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See last page also.

# Editorial

This COVID-19 pandemic has meant that a lot of us have stayed home and devoted extra time to our interests; sadly conditions have only just started to better, albeit above 10m. Amateur activity on 6m in the UK produced good signals into Japan and South Africa whilst others excelled on 4m into Gibraltar and I believe Portugal. At least one amateur operator contacted mid-US in 2m SSB and although these lifts are expected it goes to show the changes. Sunspot activity is reportedly starting to increase although as we know the proof is yet to be seen.

PoSW notes: Short wave propagation continues to be varied, one or two somewhat unusual observations from the past two months, noted that the 10 metre amateur band was unusually lively on 7-June-20 in the early morning UK time with stations from all over Europe received with strong signals. Of special interest was an extremely strong signal from OZ0A, presumably a genuine call-sign, real S-meter against the end-stop stuff, working many European stations - presumably sporadic E-layer propagation - in what he was calling a "stay at home activity contest", monitored for some time after 0800 UTC. Also noted a few days earlier on 1-June-20 on the 40 metre band in the afternoon the SSB portion was packed with UK stations working each other, some unusual short-skip propagation, usually stations heard here are from the mainland of Europe with F, D, I and HB call-signs commonly heard.

Number stuff seems to carry on without problem; E07 a on Wednesday/Thursday suddenly sent a message and one must wonder if the Morse message sent the week 18/06 before at 0450z was part of a 'wake-up' procedure?

For those with an interest in the work of the Voluntary Interceptors and the Y service without whom the Bletchley Park story would be different may well have heard the next sad piece of news:

Bob King G3ASE with whom some of us will be well familiar are aware of the sad news that Bob passed away 5<sup>th</sup> April 2020. We think of his family at this difficult time.

[Bob 'Noz' King, G3ASE, 5th April 2020](#)  
[RadCom Technical Editor](#) | April 20, 2020

<https://rsgb.org/main/blog/news/silent-keys/2020/04/20/bob-noz-king-g3ase-5th-april-2020/>



Bob King, G3ASE (SK)

It is with great sadness that we learned that Bob 'Noz' King, G3ASE, became a Silent Key on Sunday the 5th of April, 2020.

In 1941 Bob was recruited as a Voluntary Interceptor at the age of 16, followed by four and half years in the Radio Security Service stationed at Box 25, Arkley View, Barnet. There he examined logs from intercept stations to determine which transmissions were German Abwehr and were thus wanted. These were identified, if possible, for the group and service or perhaps a new service set up by the Germans. The procedure was based on ham chat abbreviations, with rarely any indication that they might be German. But the ham chat was suspicious, eg QSA0 or QSA nil, QRX Next; 3 letter call signs and groups of 5 letter cipher!

As a school teacher, Bob ran the school club call sign G3MJJ at St Ivo school St Ives and they ran skeds with other schools.

In recent years he has not been active on the ham bands, but kept contact with other Voluntary Interceptors (VI), Bletchley Park and the National Radio Centre, where he is featured in the VI display. His family have asked to be given space and privacy at this difficult time.

<https://rsgb.org/main/blog/news/silent-keys/2020/04/20/bob-noz-king-g3ase-5th-april-2020/>

From PoSW this interesting comment:

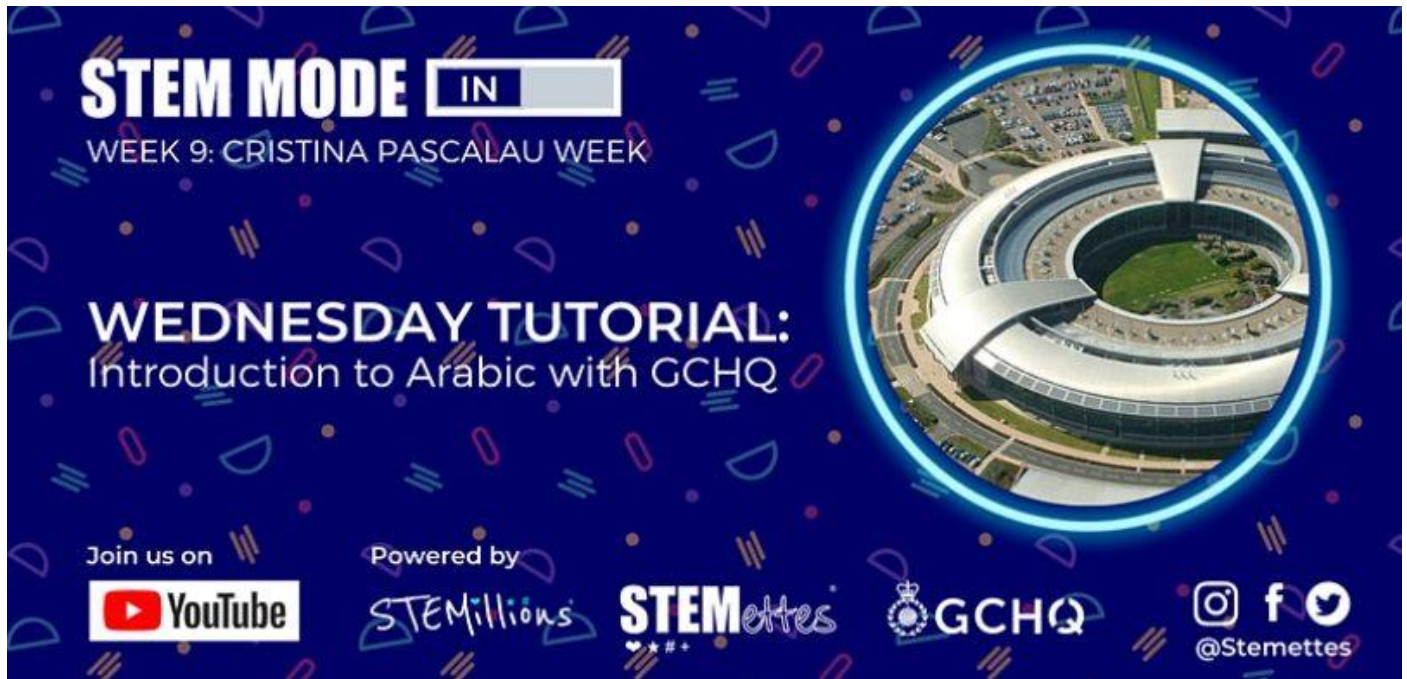
## **Not Number Station but Possibly Interesting:-**

"Slavic Ranters", as I call them, still active in 40 metre amateur band:- for some time now there has been some kind of political rant being aired on 7055 kHz in the 40M band in a language presumed to be Ukrainian and occasionally English from some individuals obviously upset at the current situation existing between Ukraine and Russia. The mode used is LSB, standard for amateur use on 40, is usually a strong signal and might be transmitted from somewhere a good deal further west than Ukraine itself because there are never any regular amateur stations heard from that part of the world of similar strength whenever this is on. A couple of examples from the last two months:-

3-May-20, Sunday:- 1917 UTC, playing modern beat/dance type music, OM speaking in Ukrainian around 1921, more music followed by some very impolite comments on Mr Putin, Russia and Moscow in accented English.

22-June-20, Monday:- 1727 UTC, what was obviously a recording, in accented English, calling - or rather singing, "CQ Russian terrorists" over and over, strong LSB signal.

One thing that I pursued, a little out of the ordinary perhaps, was this:



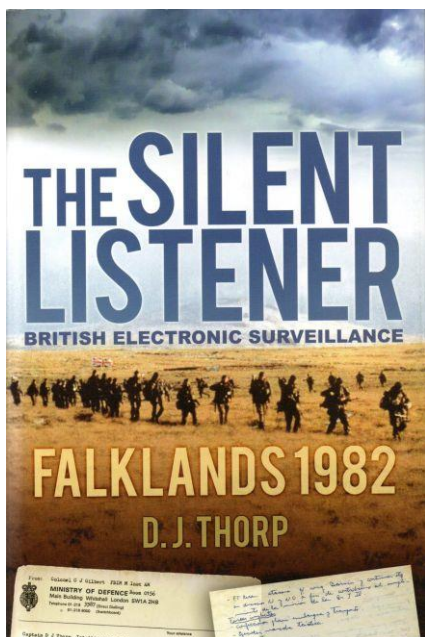
With my Arabic dictionary at hand I participated and learnt a different type of Arabic from the Yemeni tongue I know. I'm also rehashing my antenna but that is another story.

An interesting YouTube offering from JP: KGB's monitoring effort of Number Stations during the Cold War in Latvia and well worth just over an hour of your time. [Thanks JP]

[https://youtu.be/iL\\_ZRMpy\\_5E](https://youtu.be/iL_ZRMpy_5E)

[Duration 68m]

## Recommended Reading



Operation Rosario was the Argntine invasion of the Falkland Islands to reclaim them as the Malvinas.

The British [as ever] were caught off guard but responded with Operation Corporate.

The events are well documented and need no description here. Alongside our standard battle order the SIGINT and specialist intelligence boys were deployed.

This well censored but very descriptive account is well worth a read to learn a little about the Special Task Detachment, electronic warfare and resultant intelligence,

It's a good read and also mentions activities during the Cold War.

See also The Spectre's newsround, since an applicable newspiece has been included.



Before we move on to Number Station this piece caught the eye of RS who sent it in. It's interesting to a point:

## **Companies Pitch Shortwave Radio to Shave Milliseconds Off Trades They say they can beat fiber-optic cables in getting data across oceans.**

By Thomas Seal and Justina Lee  
17 June 2020, 05:01 BST

<https://www.bloomberg.com/news/articles/2020-06-17/companies-pitch-shortwave-radio-to-shave-milliseconds-off-trades>

High-frequency traders will famously do almost anything to get the latest market data and send their buy and sell orders a few milliseconds ahead of the competition. They blasted through mountains to build the most direct fiber-optic routes possible between exchanges in a competition that transformed global markets and was made famous by Michael Lewis's book *Flash Boys*. Soon, ping-pong light through glass fiber at more than 124,000 miles per second wasn't fast enough—the glass slows things down—so traders moved on to microwave transmitters that send signals through the air.

But that has problems, too. Microwaves travel only roughly as far as the eye can see before they peter out and need a signal boost. Now two rival market telecommunications companies have signed a pact that they say will give traders more access to experimental wireless signals which can travel across oceans.

To do that, signals need a longer wavelength—known as a shortwave rather than microwave—that bounces between the water and atmosphere. It's an imperfect solution. The waves can handle only a fraction of the data that fiber can, carrying about a kilobit per second vs. gigabits. And some signals can be lost.

Raft Technologies Inc., a startup based in Tel Aviv, says the trade-offs are worth it. Raft says it can send data over shortwave from Chicago to Frankfurt in 31.4 milliseconds, which it says is about 4.5 milliseconds faster than the best available fiber route. That's an eternity in an industry that tends to measure improvements by the thousandth of a millisecond. The company says the signal is about 85% reliable, compared with 100% for fiber. Clients can use a fiber line in parallel as a fail-safe measure.

GTT Communications Inc., which runs the dominant transatlantic fiber line, said in a statement that it has "the lowest latency transatlantic capacity service"—that is, the fastest—"and we are committed to maintaining our leadership position in this market."

Raft has been serving clients for a year and half and is working with McKay Brothers International, which specializes in microwave antennas, to expand its reach. The partnership will beam information on Chicago Mercantile Exchange futures contract trading to London data centers. McKay, founded and run by two Harvard Ph.D.s in physics, will then distribute these signals over its own data platform, known as Quincy, while combining its own network of microwave hops with Raft's transoceanic leap.

A microwave tower built close to a CME data center (large white building, left) in Aurora, Ill. Photographer: Jason Reblando for Bloomberg Businessweek  
The customers will be algorithmic high-frequency traders, who use computers to scour market data to find and then exploit tiny discrepancies in prices. "The obvious strategy is pure arbitrage," says Haim Ben Ami, Raft's chief executive officer. The milliseconds matter because the gaps can be so fleeting, disappearing as soon as someone else with a faster computer and quicker connection spots them. The competition is so intense that legal battles can break out over the placement of trading firms' antennas within a few feet of each other near data centers.

Ben Ami says it's likely some hedge funds and others have already been using shortwaves over their own private networks. A couple of years ago, a ham radio enthusiast spotted an apparent shortwave antenna tower outside Chicago that's been linked to trading companies. "You can imagine several large algo trading firms tried to develop this technology," he says. "But of course, they don't offer it as a service." By offering the system more widely to anyone who can pay, Raft and McKay are "leveling the field," says Raft's business and market growth manager, Tomer Mann.

Don't expect big defections from transoceanic fiber connections just yet. The bandwidth limitations on shortwave impose significant constraints on modern high-frequency strategies, according to Christina Qi, founding partner at Domeyard LP, a hedge fund. "You cannot carry sophisticated signals or full book feeds with shortwave radio transmission as you would with microwave transmission," she says, referring to the rich data on other traders' orders to buy and sell that are needed for more complex trading strategies. "But it's a technology that we're keeping an eye on."

In the midst of a global pandemic and economic crisis, it may seem strange to sign a deal to build an expensive network to do nothing but move more market data another imperceptible moment faster. But Ben Ami says he's never seen as much demand. Traffic on Raft's network soared 3,500% from February to March as clients tried to capitalize on markets' volatile price swings.

<https://www.bloomberg.com/news/articles/2020-06-17/companies-pitch-shortwave-radio-to-shave-milliseconds-off-trades>

And then my eyes were alerted to this piece from the BBC. It's well worth opening this to see the imagery but also to follow on from the earlier stories. Thanks for the email RINGB:

## **Paul Whelan: The strange case of the ex-marine jailed for spying in Russia By Sarah Rainsford**

**BBC News, Moscow**  
21 June 2020

<https://www.bbc.co.uk/news/world-53110087>

In Room 3324 of Moscow's Metropol hotel, Paul Whelan was getting dressed for a friend's wedding when Russian intelligence officers burst in. The American disappeared without trace for three days until his twin stumbled across a news report announcing that his brother had been charged with espionage. That was New Year's Eve 2018 and the start of a case that would embroil four western governments and pile pressure on relations with Russia that had already sunk to a post-Cold War low.

Almost 18 months later, Whelan has been convicted of spying - receiving Russian state secrets - after a short trial conducted entirely behind closed doors. The former US Marine - who also has British, Irish and Canadian citizenship - has always insisted on his innocence, and in court this week he described himself the victim of "greasy, slimy Russian politics".

As his family step-up their appeals to bring him home, officials in Moscow are already hinting at a possible prisoner swap adding to suspicions that the man from Michigan is a pawn in a political game that has yet to play out.

### **Tough Justice**

On 15 June, it took the chief judge just 1 minute 20 seconds to reach the key words in his verdict.

"Moscow City Court... finds Paul Nicholas Whelan guilty," he read from the typed sheet, adding that the 16-year sentence would be served in a high-security facility for the most dangerous offenders.

The judge then turned to address the defendant, who was standing in a glass cage guarded by two FSB security officers in black balaclavas. Watching from the wooden courtroom benches, socially distanced and in medical facemasks, were the ambassadors of the US, UK and Canada. "Whelan, do you understand the sentence?" he asked.

The American, whose glasses, side parting and blue sweater that he wore to each court appearance gave him the look of a neat, middle-aged librarian, looked back at the judge blankly.

His Russian wasn't up to this.

"Nothing's translated, Your Honour," the 50-year-old protested, sending an interpreter scurrying over to explain his fate. The three judges swept off the podium and out of court.

It was a flat, abrupt end to a spy trial that had taken just a handful of closed hearings. Moscow's Covid-19 lockdown had cloaked proceedings in an even thicker layer of secrecy, with both press and public barred from the building right up until the final verdict.

### **James Bond or Mr Bean?**

The first time I saw Whelan in court, well over a year ago, he arrived with a weak smile and a brown cardboard box hugged to his chest containing a packed prison lunch. He was flanked by FSB guards, faces covered so they couldn't be identified.

State TV crews, hovering for their shots in the hallway, were already referring to the accused man as "the American spy".

Paul Whelan would be brought for multiple custody hearings and appeals over the months and we squeezed in almost every time. Although we were only allowed to attend for the opening remarks, we managed to snatch several conversations with him.

That first day, though - in a cage, with a dozen cameras trained on him - he looked tense and spoke little.

Almost two months had passed since his arrest, and he said he was coping "fine". But when I asked for his side of the story, his eyes flicked towards the guards. "If I do that, I'll be in a bad way," Whelan told me, warily. "They don't want me to speak with you."

A member of his defence team has since revealed that he was coming under intense pressure from the FSB to confess, interrogated several times without his lawyers present.

"[They'd say] things like, 'There's no hope for you, tell us the truth. You're a spy, you'll be convicted,'" Olga Karlova told me last summer.

The American refused and as his time in custody was extended repeatedly, he gradually grew bolder in court.

Whelan, who at the time of his arrest was the head of global security for a US-based car parts firm, began to denounce the charge of espionage as "ridiculous", and declare that he was being tried by a "kangaroo court". He'd prepare a speech for each session, writing it out on a sheet of paper vetted and stamped by the prison censors.

"Russia says it caught James Bond on a spy mission," Whelan announced one day, as we waited for the judge. "In reality, they abducted Mr Bean on holiday."

By then, we'd learned that the American had visited Russia multiple times. On his latest trip, in December 2018, he was in Moscow for the wedding of a fellow ex-Marine to a Russian woman. But Whelan never made it to the ceremony. He was arrested in his room, just hours after showing some of the other wedding guests around the grounds of the Kremlin.

### **Paul Whelan's Instagram posts**

So, at a court hearing late last year, I raised my voice over a wall of bailiffs to ask him once again what had happened.

He paused a little, before calling back.

"I'm not allowed to give you details, but I can tell you I was set-up. I did not commit a crime," Whelan said, telling me that a friend had turned-up at his hotel that evening unannounced.

When Whelan was arrested, the FSB found a USB drive in his pocket containing the classified information it alleges he had requested. He now told me his friend had planted the device in his pocket, without him realising.

"That person was an FSB officer. He's someone I've known for ten years," he revealed for the first time.

"There's absolutely no reason he should have been in my room and no reason he should have given me any sort of device."

When the judge returned to court, to extend his stay in prison once again, Whelan's frustration erupted.

"I can talk louder than you, Your Honour," he shouted from the cage. "As my cousins in England would say, this is complete bollocks."

At that, the judge ordered the TV cameras to be removed from court. Filming was barred at all future hearings to stop the press capturing any more protests.

### **'Red-handed'**

The Russian government declared Paul Whelan guilty long ago.

Just two weeks after his arrest, Foreign Minister Sergei Lavrov declared that the American had been caught "red-handed" conducting a "concrete, illegal act".

The case was immediately big news that grew further when it emerged that Whelan was a citizen of four countries.

Born in Canada to British parents of Irish heritage, he later moved to the US entitling him to multiple passports as a result.

In early 2019, the drama of his now multi-national arrest was developing against a hostile political backdrop, with mutual sanctions over the Ukraine crisis and East-West tension not felt since Soviet times.

Nine months earlier, the UK had accused Russia of poisoning Sergei Skripal, a former double-agent, on the streets of Salisbury. At the same time, Washington was still accusing Moscow of meddling in its elections.

So when Whelan's plight became public, there was speculation that he could be the human collateral.

The FSB was already dripping details of the case it would make in court.

The Russian Rosbalt news agency quoted a source claiming that Whelan was working directly for US intelligence, tasked with obtaining a list of personnel at "one of Russia's secret institutions". It said that information was the object of "intense interest" to the Americans, and that Whelan had been cultivating potential contacts, online, for over a decade.

Spy trials in Russia are not only heard in secret, the defence lawyers have to sign non-disclosure agreements covering the entire case. So no evidence - the wire taps or surveillance footage the case is reportedly based on - has been made public.

In Whelan's case, there's the added nuance that his defence team were appointed and paid for by the Russian state. His family decided not to change them, reasoning that a bill of over \$150,000 (£121,000) was "an awful lot of resources for what would have been zero impact".

"Secrecy, provocation and falsification, that's the arsenal of our opponents," says Ivan Pavlov, a human rights lawyer who has gone up against the FSB in many espionage cases.

He mostly represents Russians accused of selling secrets to the West and says the number of such cases has grown significantly since the political climate turned cold again in 2014.

The lawyer warns that the FSB is the "mightiest secret service, not only in Russia," and uses its own experts to examine any evidence for the court.

"If you've got mixed up in something like this, then you're in the most complicated story of your life," Ivan Pavlov says. "It will be very difficult to mount a defence."

### **The Russia connection**

Paul Whelan's travels in Russia began more than a decade ago.

"This is 'Lubyanka' where the KGB has our spies locked in the basement!!", he joked in 2007 on a personal website.

The image was of the headquarters of Russia's notorious security services, now known as the FSB.

Eleven years later, its officers would drive him there for interrogation.

### **Lubyanka, FSB headquarters in Moscow**

The photograph dates from Whelan's first trip to Moscow, made while he was serving with the US military in Iraq. That year he told a Marines news site that he'd taken advantage of a programme that funded a two-week break abroad for those on long deployments.

Whelan had plumped to visit Russia, explaining that, for a "single man like me" the scheme was "an opportunity to travel throughout the world...and experience the diversity of culture".

Since his arrest, the Marine Corps has disclosed that he was discharged in 2008 for bad conduct, a revelation that "absolutely stunned" his twin brother David. "He was always absolutely positive about the [Marines] experience. There's a Marines' flag flying right below the American flag on my parents' property the whole time," David told the BBC from Canada.

And yet, unknown to those closest to him, Paul had been court-martialled for trying to steal more than \$10,000 from the US government.

It was with this scandal breaking behind the scenes, that he first headed for Moscow.

"Having grown up during the Cold War, it was a dream of mine to visit Russia and meet some of the sneaky Russians who had kept the western world at bay for so long!!" Whelan joked back then on his website, which has since been archived.

Its pages document the trip with shots of tourist spots and captions laden with exclamation marks.

A decade later, he would message home regularly from trips to Russia displaying similar almost child-like wonder at new discoveries.

The website content does support later descriptions of Paul Whelan by contacts, colleagues and family as an enthusiastic world traveller who "made friends pretty much everywhere" and had an interest in Russian culture.

"I remember making small talk once and I said, 'You travel a lot for work, where do you travel for fun?'," a former colleague, Skotti Fietsam, told the BBC. "He said Russia!"

She recalled her surprise at his reply.

"He said it's beautiful and he liked the cold and he had quite a few friends there."

An entire section of his old website is dedicated to the cute cartoon character Cheburashka, describing the big-eared, wide-eyed creature as "one good thing to come from the Soviet era". Another link leads to a homemade guide to the Cyrillic alphabet and some basic first words in Russian.

Russia would later insinuate, via anonymous sources quoted in the press, that the CIA had selected candidates for Paul Whelan to cultivate for intelligence. It was noticeable, one such report said, that he chose only to befriend men and not "pretty Russian girls".

Whelan was friends with young servicemen in the US, though, too. His website describes his "respect and admiration" for three Naval Academy graduates who'd just joined the Marines.

And he didn't hide his interests and encounters.

In 2009, he took his own parents to visit Russia, where they've told me they met several of his young friends in military uniform.

Meanwhile, the front page of his website invited visitors to click on the image of a young Russian soldier to learn more about his "hobbies and military service".

The link led to Maxim, who explained that his new friend, Paul Whelan, was helping with his English which he planned to study at university.

The Russian described the two spending several days "touring Moscow" together, eating sushi and caviar-filled pancakes.

### 'Nothing suspicious'

Whelan went on to seek out more Russian friends, using the country's social networking service VK among others.

A scroll through their profiles, soon after his arrest, revealed almost all to be men - most considerably younger than him. Some do have clear military connections - including photographs in uniform - though not all, and no-one who replied to my messages had seen any reason to doubt Whelan's motives.

One replied to tell me he'd been a student and supermarket night-guard when the American first made contact. The two met in person for a few hours in 2008 when Whelan was touring Russia, visiting multiple friends in various cities.

"I don't believe that Paul is a spy," the man wrote to me. "I... don't know anything what [sic] might be interesting to foreign spy."

Another man gave his friend a sightseeing tour of his own town that same year. He has no apparent link to the military himself and joked to me via VK that the American "didn't request to see anything suspicious :))"

A Moscow hairdresser, meanwhile, was contacted by Whelan on Instagram around five years back. They talked about foreign travel and never met.

One VK friend still in the military told me the American first messaged when he was a cadet and the two have chatted online two or three times a week ever since.

"He seemed nice and was fascinated by our country, its history and our traditions and people!" the man replied to my enquiries, adding that his own interest was in the ex-Marine's time in Iraq.

He had no idea his friend had been arrested. "No way? He's the kindest soul! If he's a spy, then I'm Michael Jackson!!!!" he wrote.

### Betrayal?

The man Whelan accuses of framing him was one of his oldest friends in Russia. He is also a serving intelligence officer.

Defence lawyers disclosed some details of the men's relationship early on in the case, including how the American had visited his friend's house in Sergiev Posad outside Moscow for "saunas and kebabs" the winter before his arrest.

They also said he owed Whelan around 80,000 roubles (\$1,147; £930) which the FSB claimed was advance payment for intelligence. The defence team said the Russian had requested a loan to buy a gift for his wife, as part of his trap.

The town of Sergiev Posad is home to the spiritual centre of the Russian Orthodox Church - the Trinity Lavra of St Sergius

The Whelan family eventually found a name and even a photograph.

As he still works for the FSB, I can't identify him so I'll call him "Dmitry". But Whelan chatted openly to relatives on email about his friend, including which "FSB school" he'd attended.

"Dmitry' says hello!", Whelan breezily told his parents after one Facetime chat with the Russian. It seems unusual behaviour if he was trying to recruit the man for US intelligence.

It's possible he even introduced his parents to "Dmitry" on their 2009 trip to Russia, they can't be sure.

In messages home from Moscow in January 2018 - a free holiday to use up his air miles - the American described visiting restaurants with his agent-friend, as well as the museums of the Kremlin and even a British pub.

A year later, just days before his arrest, Mr Whelan took "Dmitry" and another man for Christmas dinner at a restaurant opposite his hotel. He snapped a picture of his guests, "Dmitry" smiling with a glass of wine and his fork raised over a juicy steak.

Labelling it "Dinner with Tovarishi", or comrades, he messaged the image to a third Russian friend - even as he was supposedly discussing how to transfer classified intelligence.

"It all sounds incredibly naïve now," his brother concedes of the relationship, after finally obtaining the passwords for Paul's computers and trawling through his files.

He says his brother's VK messages were deleted after his arrest.

"He has friends in other countries with a military background, I think it was a social thing," David Whelan argues. "The FSB thing wasn't a big deal, until he was entrapped."

Paul Whelan's lawyers have now confirmed that he was being watched for some time and his communications monitored.

A recent newspaper report claimed that the American had come to FSB attention over a decade ago when, as Kommersant's source says, he "actively" began contacting Russian servicemen.

But the espionage case was based entirely on Whelan's ties to one officer, with all the evidence gathered in 2018 shortly before his arrest.

"Had this been an independent court, they would have reached only one decision - not guilty," his lawyer, Vladimir Zherybyonkov said after the verdict. He said the evidence was only ever examined by "incompetent and interested parties".

Ivan Pavlov believes Whelan's claim he was framed is "always possible" with FSB intelligence officers.

"The temptation is high: to rise in rank; for promotion; for more stars on your epaulettes," the lawyer says. "This is how FSB careers are made; people rise on the back of such cases, like mushrooms after the rain."

Officers typically bide their time, he explains, calling it "calf-rearing", before a target is culled.

If so, it appears that Paul Whelan was blind to the threat.

In one email exchange during his early 2018 trip to Moscow, a relative joked: "Don't get into any trouble we can't get you out of, haha!"

"I will be with guys from the FSB, so should be okay!", the American wrote back.

### **Spy mania**

The surge in East-West tensions has made espionage both more complex - and more urgent - in recent years.

After the Salisbury poisoning in early 2018, more than 100 Russian diplomats identified as intelligence agents were expelled from embassies around the world in a co-ordinated act of protest. Russia responded with a mirror mass expulsion of Western diplomats.

At the time, one ambassador told me the move had hit Moscow's spying capacity hard. But the same is presumably true in reverse.

There were signs of problems even earlier.

Almost exactly a year before Paul Whelan's arrest, a Norwegian staying at the same central Moscow hotel was arrested and charged with espionage. A retired border guard, Frode Berg admitted to delivering envelopes of cash and spy instructions on behalf of Norwegian military intelligence agency.

His arrest and 14-year prison sentence caused a scandal back home when it emerged that civilians with no diplomatic cover were being used for high-risk espionage. There were even allegations that Norway was under pressure to obtain the information from its partners in Nato.

Former CIA officers have dismissed any suggestion that Whelan could be involved in something similar, operating without diplomatic immunity: the idea, floated by one retired Russian officer, that his arrest was a "great failure" of US intelligence.

The US Embassy and government have been very vocal about Whelan's detention. "Paul Whelan is innocent," Ambassador John Sullivan told me emphatically last week, calling the trial a "mockery of justice".

In Frode Berg's case, the Norwegian government stayed quiet.

And while Paul Whelan's dishonourable discharge from the Marines shows there are parts of his life of which even his family have no idea, his supporters point to the theft charge as a positive.

"The intelligence community would never use someone with that past, especially in a situation like this when you'd be sent into a very, very difficult environment," argues Ryan Fayhee, the family's lawyer in the US who cites intelligence contacts from his days prosecuting cases of counter-espionage.

"It just wouldn't happen," Fayhee believes. "Trust is the most important thing when you are out there, living on the edge."

### **Lefortovo life**

Perhaps Whelan enjoyed the element of danger that came from flirting with the FSB, hanging out with intelligence officers.

One friend who didn't want to be named told me he was "a little quirky", and liked to "push the line a bit". He wondered whether some comment, or joke might have been disastrously misconstrued. Whelan's own defence lawyer once hinted at that possibility.

Skotti Fietsam, his former colleague, found Whelan serious and supportive, but also laughed at how he would insist on using heavily armed guards when he visited the factory she managed in Mexico, even posting them outside restaurants while they ate.

"I don't know if it was machismo; to show off," Fietsam said. "But it was very unusual."

On Whelan's old website, alongside Harry Potter books and War and Peace, his recommended reading includes a long list of Cold War thrillers by Tom Clancy.

But there's nothing glamorous about prison life in Lefortovo.

"The porridge, some days it goes direct to the toilet," Frode Berg wrote to me from northern Norway of life in the FSB prison. He's now back home after a prisoner-swap.

His own cellmate in Lefortovo used to joke that the inmates were fed dog food in the mornings.

"We never see or meet other prisoners. When we go to a meeting, prisoners were hidden from each other," Berg describes the lonely routine of life inside the K-shape jail, whose tall outer walls now butt-up against Soviet apartment blocks.

Paul Whelan is being held in the renovated wing, where the Norwegian says there is hot water in the cells now as well as a fridge, TV and toilet. But the space measures 9.5 square metres between two prisoners and exercise is one hour a day on the roof.

Cellmates get to shower once a week, together, in the basement. One light remains on in the cell 24/7.

Whelan and his family say letters have been held back for months by investigators and parcels returned. He wasn't allowed a phone call home for 16 months. And adding to his discomfort was chronic pain from a hernia that eventually strangulated, resulting in emergency surgery.

### **Swap-shop?**

Sentenced to a high-security prison, Paul Whelan won't be leaving Lefortovo just yet.

His lawyers do plan to appeal against the verdict but other, bigger forces are already at play. The minute the American was convicted, the focus shifted to a possible prisoner swap.

"They want Yaroshenko and Bout, that's who they want back," Paul Whelan claimed, naming two high-profile Russian prisoners in America as the court bailiffs ushered me and my microphone out of the room. "That's the only reason they've done this," he alleged.

Lawyer Vladimir Zheryonkov was soon saying the same, now claiming the FSB had been planning a swap all along.

"No-one's hiding that, everyone talks about it, all the officials," he told the press.

So the prisoner who has always called himself a political hostage is now looking to the politicians to do a deal for his release.

All the signs so far suggest Moscow is opening with a high bid - Viktor Bout, a weapons dealer serving 25 years in America and Konstantin Yaroshenko, sentenced to 20 years for drugs smuggling.

On Wednesday, the Foreign Ministry spokeswoman called on Washington to show "humanity" and release Yaroshenko "and other unjustly convicted" Russians. The US has said repeatedly the two men were convicted in open and fair trials.

"We are not looking for an exchange, we are looking for justice for Paul," US Ambassador John Sullivan insisted, emerging from the verdict at Moscow City Court to a wall of microphones and cameras.

Whelan's family are already pushing for action after a sentence that his brother, David, called "a gut punch".

But he knows it took months of complex, confidential diplomacy to arrange a suitable swap for Frode Berg that eventually involved Russian agents in prison in Lithuania. Norway wasn't holding any convicted spies to trade and neither is America.

"I'm trying to focus on immediate goals, so I don't get distracted by how awful it is that he could spend 16 years behind bars," David Whelan told me, imagining how his twin would have felt, convicted of spying and heading back to his prison cell.

"I think Paul will be taking it very hard. It is an extraordinarily long time."

<https://www.bbc.co.uk/news/world-53110087>

Finally this with a radio aspect:

## **Did a staggering British blunder hand Stalin the atomic bomb? Startling new evidence suggests Agent Sonya who passed nuclear secrets to Moscow was recruited to work here by MI6**

**Ursula Beurton presented herself as a bicycling housewife and mother of two  
She was a well-respected Soviet Union intelligence officer called Agent Sonya  
She acted as a courier for Dr Karl Fuchs and at least two other British traitors  
Agent Sonya transmitted messages back to Moscow from a home made radio  
Analysis of files suggests it was MI6 that brought her to Britain in the first place**

**By Guy Walters and Ben Lazarus For The Mail On Sunday  
Published: 00:45, 28 June 2020 | Updated: 00:54, 28 June 2020**

<https://www.dailymail.co.uk/news/article-8467057/Did-staggering-British-blunder-hand-Stalin-atomic-bomb.html#newcomment>

There was no reason to pay particular attention to the couple sitting in a cafe opposite Birmingham's Snow Hill station one afternoon in October 1942. They could have been lovers or just old friends.

The man was slim, with round spectacles and a high forehead, the sort of person we might today call a geek. The woman, who at 35 was four years older than her companion, was short and dark with an engaging smile.

Did their fellow customers take note when the man with the glasses passed a large envelope to his companion? Unlikely, even with a war on. But anyone looking inside the envelope would have been startled, for it contained no fewer than 85 pages of top secret documents concerning a project called 'Tube Alloys' – nothing less than Britain's programme to develop the atomic bomb.

The man sitting at the cafe table was Dr Klaus Fuchs, a German refugee and one of the most brilliant nuclear physicists of his generation. And while his female accomplice might have passed herself off as the simple mother-of-two that she really was, in fact she was also an officer for the GRU – the foreign military intelligence division of the Soviet Army – and had the codename Sonya.

Double life: Ursula - aka Agent Sonya - with first husband Rudolf and their son Michael. Ursula was already a rising star of Soviet espionage when, in 1938, she was ordered to Switzerland to set up a spy network, later known as The Red Three

This was Ursula Beurton, such a well-respected intelligence officer for the Soviet Union that, in 1937, she had been awarded one of its highest decorations: the Order of the Red Banner.

It is thanks in part to the treachery of Fuchs that Joseph Stalin was able to get his hands on atomic technology many years sooner, saving many millions of roubles in research costs by exploiting the time-consuming and costly work already carried out by Britain and the United States.

Still worse was the severe rupture in Anglo-American intelligence-sharing when Fuchs – who had become a naturalised British citizen – was eventually exposed in 1950.

The Americans would distrust Britain for many years, perhaps even decades.

But this is to downplay the role of Agent Sonya, who managed to outwit the spycatchers of MI5 for nine long years from 1941 to 1950, despite coming under heavy suspicion, and without whom Fuchs would never have been able to operate so successfully.

Bringing up her children in north Oxford and later in an Oxfordshire village, Ursula presented herself to the world as a bicycling housewife.

In reality, she was a courier for the nuclear scientist and at least two other British traitors, and regularly transmitted messages back to Moscow from a radio that she built herself.

For seven decades it has remained a mystery how Agent Sonya got away with it. This was a woman, after all, who brazenly erected aerials on the roof of her family home.

And now there is an answer – a remarkable new theory that she was recruited and then carefully guarded by none other than Britain's own Secret Intelligence Service, today better known as MI6.

The idea that one of the most dangerous Soviet spies in history was inflicted on Britain by our own espionage officers is startling, to say the least. Yet an extensive analysis of formerly top secret MI5 files held at the National Archives in Kew – and one in particular called KV 6/41 – suggests not only that Ursula was supposedly recruited by its rivals in MI6 but that, more sensationally still, it was MI6 that brought her to Britain in the first place, and in the full knowledge that she had once worked for Moscow.

This is the conclusion of two leading intelligence historians, Professor Anthony Glees, former professor of security and intelligence at the University of Buckingham, and historian Dr Antony Percy.

Prof Glees puts it bluntly: the recruitment of Agent Sonya was 'a balls-up of massive proportions' that did untold damage to the security of the West. 'It blew up in the face of both services,' he adds.

Ursula was already a rising star of Soviet espionage when, in 1938, she was ordered to Switzerland to set up a spy network, later known as The Red Three.

It is thanks in part to the treachery of Dr Klaus Fuchs that Joseph Stalin was able to get his hands on atomic technology many years sooner, saving many millions of roubles in research costs by exploiting the time-consuming and costly work already carried out by Britain and the United States

Tasked with training GRU agents and infiltrating anti-Nazi spies into Germany, Ursula was the wireless operator and would eventually hold the rank of colonel.

At the time she was married to Rudolf Hamburger, another committed Communist who had, like her, been trained by the GRU in Moscow. By 1939, the couple's marriage was breaking down, however, and that's when MI6 is likely to have made its move.

As a German national, a Jew and a Communist, Ursula was in a precarious position.

Had her work been discovered, the Swiss authorities would probably have handed her over to the Gestapo, say Prof Glees and Dr Percy. MI6 no doubt thought Agent Sonya would be grateful for the chance to double-cross the Soviet Union, move to Britain and work for them instead.

In 1940, she entered into a marriage of convenience with Len Beurton, a British Communist and a long-standing MI6 agent.

The union was cynically arranged by MI6 in order to secure a British passport for its new 'agent'.

The British consul in Geneva was well aware of this at the time and, as the files at Kew show, misgivings were expressed.

But any diplomatic barriers were overridden by MI6 and the service's head of station, Victor Farrell.

It was a risky game – and one that Britain lost decisively. Farrell had completely underestimated quite how committed Ursula was to Moscow, and would be for the rest of her life.

It is possible not only that the GRU had been aware of Sonya's impending 'defection', but that Moscow had even sanctioned the arrangement.



As Prof Glees explains, she would have jumped at the chance to move to Oxford when MI6 approached her: 'Oxford was a destination of choice for any Soviet GRU officer, home to vital scientific war research. It was also home to one of MI5's temporary wartime headquarters, Keble College.' Ursula and her two children arrived in wartime Liverpool by boat in early 1941, and she soon found herself living in a bungalow in the village of Kidlington, five miles north of Oxford.

It was from there that Agent Sonya started transmitting messages to Moscow.

If MI6 officers thought they had secured a valuable agent, their colleagues in MI5 – which specialises in counter-intelligence – were suspicious from the start.

'As the very existence of these documents in Kew shows, MI5 were tracking her from the moment she arrived in the UK,' says Prof Glees.

'But there was no hard evidence against her, and senior MI5 officers knew MI6 had arranged for her to be in England.

'In effect, MI5 was told to keep their fingers off her – most importantly by Kim Philby.'

Philby, of course, would later emerge as one of the most destructive moles in the history of British espionage.

Prof Glees said Sonya 'served Stalin's murderous regime with skill and cunning'. The Soviet Union successfully detonated its first hydrogen bomb within months of Stalin's death in 1953

Prof Glees adds: 'Perhaps this is why the whole incident is totally airbrushed out in Christopher Andrew's authorised history of MI5 and Keith Jeffery's authorised history of MI6.'

Ursula's contact at the Soviet Embassy was an attache called Simon Kremer, who supplied her with all the money she needed to run her network.

It is thought she was transmitting to Moscow at least twice a week on average, which makes it all the more extraordinary that she evaded arrest.

She even continued after the war, when the family moved to the Oxfordshire village of Great Rollright, near Chipping Norton – despite persistent attention from the security services.

'MI5 and Oxford Special Branch intercepted her mail over a long period and inspected her... radio, which was silent,' says Dr Percy.

'This was correct, we suggest, but only because she was, in fact, broadcasting from several miles away, in Kidlington, where official wireless traffic from the RAF station made detection impossible.'

Even the man who would later be the head of MI5, Roger Hollis, believed Ursula to be a Soviet spy, say Prof Glees and Dr Percy.

Hollis notes in the files that 'there is no doubt she has Communist sympathies' and that 'Sonya is an alias given to her by the Russian secret service'.

Ursula was no mere wireless operator.

Aside from handling Klaus Fuchs, she looked after a treacherous officer in the Royal Air Force and Melita Norwood, the civil servant who leaked atomic secrets to the Russians, and who was sensationally unmasked in 1999.

She almost certainly helped a number of Oxford scientists with Communist sympathies, too.

The 'star' agent, of course, was Fuchs. Ursula would cycle to assignments in the Oxfordshire countryside and, posing as lovers, the two would walk the lanes arm-in-arm.

On some occasions they would use a 'dead drop' – often a hole dug between the roots of a tree – in which Fuchs could 'post' documents to Ursula that he had copied or stolen from the Atomic Energy Research Establishment at nearby Harwell.

Kim Philby (above) would as 'one of the most destructive moles in the history of British espionage,' Prof Glees said. When MI5 asked MI6 to investigate whether or not Ursula had maintained contact with her first husband, the traitor Philby told them that it was impossible to find out

As Professor Frank Close writes in his biography of Fuchs – *Trinity: The Treachery And Pursuit Of The Most Dangerous Spy In History* – Ursula grew quite close to a man she described as a 'sensitive and intelligent comrade'.

Ursula would later write: 'No one who did not live in such isolation can guess how precious these meetings with a fellow German comrade were.

'Our common involvement in trading in danger also added to our feeling of closeness.'

While Ursula was busy working for Moscow, it appears that MI6 was concerned it was not getting what it had paid for with that British passport – loyalty.

One of the most extraordinary documents in the files is a letter from MI6 officer Victor Farrell, written directly to Len Beurton in March 1943, wondering why he had fallen silent.

Aside from anything else, it shows that MI6 officers continued to believe that Len and Sonya remained loyal British agents. How wrong they were.

True, the couple were protected. When MI5 asked MI6 to investigate whether or not Ursula had maintained contact with her first husband, the traitor Kim Philby told them that it was impossible to find out.

A suspicious MI5 questioned Ursula in her home in 1947, but even then she outsmarted them.

The exasperated MI5 interrogator later gave 'credit to her earlier training, for every possible piece of cajolery, artifice and guile that could be, was employed without any success whatsoever'.

Ursula – who later lived as Ruth Werner, an alias she had used in the 1920s when writing for the Communist newspaper *The Red Flag* – took her biggest secret to her grave in July 2000. And why was she allowed to flee

She was a 'rock of non-co-operation'.

Despite the questioning, the known Communist sympathies and the fact that her neighbours even saw her erecting aerials, on the eve of Klaus Fuchs's trial in January 1950, Ursula somehow managed to escape to East Berlin with her husband.

Fuchs joined them on his release from jail in 1959.

So how did she consistently outfox not one but two British intelligence services?

Although she was to publish a memoir of her espionage experiences, Ursula – who later lived as Ruth Werner, an alias she had used in the 1920s when writing for the Communist newspaper *The Red Flag* – took her biggest secret to her grave in July 2000.

And why was she allowed to flee?

For Prof Glees and Dr Percy, the only explanation must be that MI6, terrified of having exposed its role in bringing such a damaging Soviet agent into the country, allowed Ursula to slip away quietly.

'Sonya outwitted both MI5 and MI6 hook, line and sinker,' says Prof Glees.

'Her dark red heart had always belonged to the GRU. She had served Stalin's murderous regime with skill and cunning, yet it was Philby's hidden hand that had ensured her safety.'

This is not the only conclusion to be drawn from the documents, according to the historians.

In his 1987 book *Spycatcher*, former MI5 officer Peter Wright had sensationally claimed that Roger Hollis, the former head of the service, was in fact a Soviet mole.

Elsewhere, it has been suggested that Hollis had personally helped protect Ursula from the British authorities. The new evidence of Hollis's diligence in attempting to unmask Agent Sonya entirely disproves this, says Prof Glees.

'Managing double agents is hard when your services have been infiltrated by traitors. KV 6/41 ends for ever any lingering doubts about Hollis's loyalty and expunges finally the slur on his name.

'As for Sonya's story, it is real-life confirmation of le Carré's verdict that betrayal is always the handmaiden of espionage.'

<https://www.dailymail.co.uk/news/article-8467057/Did-staggering-British-blunder-hand-Stalin-atomic-bomb.html#newcomment>

Now, onto the log section:

# Morse Stations

All frequencies listed in kHz. Freqs are generally +/- 1k

This is a representative sample of the logs received, giving an indication of station behaviour and the range of times/freqs heard. These need to be read in conjunction with any other articles/charts/comments appended to this issue.

## Morse - Number Stations

### **M01b Ceases Transmissions ....**

M01b transmissions were last heard on Friday 29 May. Schedules to this date were fixed and unchanged and, apart from an odd occasion when one of the two parallel frequencies was absent. M01b made a regular & predictable appearance on Mondays, Thursdays & Fridays with two transmissions each evening.

Running for at least the past 15 years, probably much longer, this is the first time M01b has been missing from their regular slots & would seem to indicate that the station has now been closed down permanently. It is only a few months ago that we reported that the transmissions were being received in the UK with much greater readability due to increased power / improved modulation.

It is sad to have to report on the loss of yet another station, particularly one of a declining number of active Morse stations.

### **... And M01 Becomes Weaker**

At the same time that the M01b schedules ceased the reception of M01 transmissions became weaker, to the point where a good many of the messages have become impossible to log. This has been noted throughout June & although propagation conditions cannot be ruled out as a cause, the consistency of poor received signal strength would suggest that it is due to some changes made to the transmissions – either a change of transmitter location or antenna or a reduction in output power.

As this sudden drop in received strength occurred at the same time as the cessation of M01b transmissions, it is quite possible that the two events are linked.

**M01/3** XIV MCW, hand (025 sched for May - Aug). Will change to M01/2 sched ID 463 for Sept - Oct.

Variant formats continue to be used on an irregular but frequent basis. Four variant formats have been identified

Standard Format:	197 (R4m) 117 117 30 30 == 93447 .... 20478 == 117 117 30 30 000	(Still the most commonly used format)
Variant Format 1:	197 (R4m) 147/30 147/30 78902 ... 86083 147/30 000	(Not used for some time now)
Variant Format 2:	197 (R4m) 521=30 == 521=30 == 46547 ... 88305 = 521=30 == 521=30 0=0=0	(Not used for some time now)
Variant Format 3:	463 (R4m) 127 30 == == 84820 ... LG 82607 == == 127 127 30 30 000	(Not used at all so far in 2020)
Variant Format 4:	197 (R4m) 589 589 = 30 30 == 40728 .... 58918 == 589 589 = 30 30 000	(Used 6 times in May only)

### May 2020:

4905	2000z	05 May	'025' 566 30 == 66119 ... 81442 ==	Good, slow. No errors	BR	TUE
	2000z	07 May	'025' 089 30 == 85027 ... 42747 ==	Strong, fast. Two errors noted. Grp28 sent once only	BR	THU
	2000z	12 May	'025' 411 30 == 57398 ... 14445 ==	Good, fast. One error. Grp18 32621 32661	BR/HFD	TUE
	2000z	14 May	'025' 530 = 30 == 44330 ... 61743 ==	Good, slow. No errors noted.	Format 4 BR	THU
	2000z	19 May	'025' 940 = 30 == 72524 ... 19559 ==	Good, slow. One error. Grp26 55448 455448	Format 4 BR	TUE
	2000z	26 May	'025' 718 30 == 25524 ... 16232 ==	Fair, slow. Difficult copy at times. No noted errors	BR	TUE
	2000z	28 May	'025' 751 30 == 37124 ... 12538 ==	Fair, med-fast. Errors noted in grp10 & grp30	BR	THU
5280	1800z	05 May	'025' 741 30 == 56962 ... 24616 ==	Fair, slow. Single fig. repeat error in grp08	BR/HFD	TUE
	1800z	07 May	'025' 300 30 == 93384 ... 47326 ==	Good, fast. Excellent Morse. No errors	BR	THU
	1800z	14 May	'025' 490 = 30 08835 ... 69344 ==	Fair, slow. Several errors noted.	Format 4 BR	THU
	1800z	19 May	'025' 815 = 30 == 99256 ... 85802 ==	Good, slow. Two errors noted.	Format 4 BR	TUE
6435	1500z	02 May	'025' 244 = 30 == 59598 ... 32049 ==	Strong, slow. Start DK sent as 224 234	Format 4 BR	SAT
	1500z	09 May	'025' 275 30 == 74617 ... 50274 ==	Fair, fast. Local QRM present. Errors noted.	BR	SAT
	1500z	16 May	'025' 187 30 == 23110 ... 07751 ==	Weak, fast. Numerous errors. Many shortened grps	BR	SAT
	1500z	23 May	'025' 817 30 == 98432....		HFD	SAT
	1500z	30 May	'025' Very weak – No useful copy		BR	SAT
6780	0700z	10 May	'025' 611 = 30 == 31300 ... 53286 ==	Fair, slow. Start DK sent as 611 661.	Format 4 BR/HFD	SUN

### June 2020:

4905	2000z	02 Jun	'025' 901 30 == 77515 ... 67901 ==	Fair, fast. Good Morse. No errors	BR	TUE
	2000z	04 Jun	'025' 732 30 == 21961 ... 41772 ==	Fair, fast. Difficult copy at times. No noted errors	BR	THU
	2000z	09 Jun	'025' 454 30 == == 27264 ... 36057 ==	Fair, fast. Difficult copy at times. Numerous errors	BR	TUE
	2000z	11 Jun	'025' 370 30 == 83345 ... 64704 ==	Fair, fast. Difficult copy at times. Errors noted	BR	THU
	2000z	16 Jun	'025' 873 30 == 44878 ... 52312 ==	Fair / Good, med-fast. Excellent Morse	BR	TUE
	2000z	18 Jun	'025' . 97 30 == Very weak – No useful copy		BR	THU
	2000z	23 Jun	'025' 650 30 == 70171 ... .6757 ? ==	Very Weak – Poor copy	BR	TUE
	2000z	25 Jun	'025' 311 30 == 57063 ... 13543 ==	Fair, fast. Many part or unfinished grps.	BR	THU
	2000z	30 Jun	'025' 515 30 == 86798 ... . 3741 ==	Fair, fast. Difficult copy at times	BR	TUE

5280	1800z	02 Jun	'025' 351 30 == 67913 ...	Very weak, fast. Very poor copy due to weak sig & QSB	BR	TUE
	1800z	04 Jun	'025'	Very weak - No useful copy	BR	THU
	1800z	09 Jun	'025' 375 30 == 552 ... 9 .502 ==	Weak, fast. Poor copy, particularly the last half of msg.	BR	TUE
	1800z	11 Jun	'025'	Very weak - No useful copy	BR	THU
	1800z	16 Jun	'025' 281 30 == .9668 ... 46037 ==	Weak, med=fast. Poor copy	BR	TUE
	1800z	18 Jun	'025' 171 30 == 88550 ... 33888 ==	Fair, fast. Errors noted just prior to start DK GC.	BR	THU
	1800z	23 Jun	'025'	Very weak - No useful copy	BR	TUE
	1800z	25 Jun	'025' 387 30 == 42708 ... 70897 ==	Fair, fast. Many part or unfinished grps. Readable sigs!	BR	THU
	1800z	30 Jun	'025'	Very weak - No useful copy	BR	TUE
6435	1500z	06 Jun	'025'	Very weak - No useful copy	BR	SAT
	1500z	13 Jun	'025' 237 30 == 74798 ... 83617 ==	Weak, fast. Difficult copy at times. QSB present	BR	SAT
	1500z	20 Jun	'025' 293 30 == 87213 ... 79549 ==	Fair, med-fast. Difficult copy due to local QRM	BR	SAT
	1500z	27 Jun	'025'	Very weak - No useful copy	BR	SAT
6870	0700z	07 Jun	'025'	Very weak - No useful copy	BR	SUN
	0700z	21 Jun	'025' 887 30 == 96605 96605 ... 87315 91507 95 ==	Lots of mistakes	AB	SUN

**M01a** (From Feb 2016 M01a has been redefined to cover all M01 variants - excepting M01b)

A number of regular schedules have been reported & Logged by Edd Smith - See ENIGMA 2000 Newsletter 116 for details.

Logs are shown as continuous. In practice there are often pauses between lines - Often quite lengthy pauses.

**May 2020:**

4523	0848z	12 May	361 (x3) 91648 (2) 361 (x3) 91457 (2) 361 (x3) 97971 (2)		F5JBR	TUE
9192	0532 - 0538z	13 May	498 (x3) 52449 (x2)		F5JBR	WED
9192	0534 - 0537z	20 May	498 (x3) 52482 (x2)		F5JBR	WED
9192	0533 - 0539z	21 May	498 (x3) 55651 (x2)		F5JBR	THU
7692	0540 - 0546z	13 May	498 (x3) 47436 (x2) 498 (x3) 49337 (x2)		F5JBR	WED
7692	0539 - 0546z	20 May	498 (x3) 49337 (x2)		F5JBR	WED
7692	0543 - 0549z	21 May	958 (x3) 41050 (x2)		F5JBR	THU

**June 2020:**

7692	0541 - 0549z	03 Jun	498 (x3) 49337 (x2) 000		F5JBR	WED
7474	0832 - 0839z	03 Jun	304 (x3) 33792 (x2) 111 333 37272 111 000		F5JBR	WED
4287	0623z	05 Jun	508 (x3) 56013 (x2) 111 999 896 10 = 74650 34789 46032 74098 32479 86041 23406 53123 70493 12408 = 896 10 111 896 10 = 74650 34789 46032 74098 32479 86041 23406 53123 70493 12408 = 896 10 111 000		F5JBR	FRI

**M01b**

**May 2020:**

4895//5340	2010 - 2027z 2010z	01 May 22 May	'467' 121 31 = 59557 ... 79545 000 '467' 121 31 = 59557 71189....	Good//Strong Good//Strong	MCW MCW	BR/HFD BR/PoS	FRI FRI
5065//5805	1940z 1942z 1942z	07 May 21 May 28 May	'936' 121 31 = 59557.... '936' 121 31 = 59557 71189.... '936' 121 31 = 59557 71189....	Strong//Strong Good//Strong	MCW MCW	HFD BR BR	THU THU THU
5075//5465	1902z 1902z 1902z	01 May 22 May 29 May	'336' 121 31 = 59557 71189.... '336' 121 31 = 59557 71189.... '336' 121 31 = 59557 71189....	Good//Strong Good//Strong	MCW MCW MCW	AB/HFD BR BR	FRI FRI FRI
5095//5760	1832z 1832z 1832z	07 May 14 May 28 May	'815' 121 31 = 59557 71189.... '815' 121 31 = 59557 71189.... '815' 121 31 = 59557 71189....	Strong//Strong Good//Good under XJT Fair//Strong under XJT	MCW MCW MCW	AB/HFD BR BR	THU THU THU
5125//5735	1810z 1810z 1810z	04 May 11 May 18 May	'364' 121 31 = 59557 71189.... '364' 121 31 = 59557 71189.... '364' 121 31 = 59557 71189....	Good//Good Strong//Strong Strong//Good	MCW MCW MCW	BR/HFD BR BR	MON MON MON
5150//5475	1915z 1915z	04 May 25 May	'858' 121 31 = 59557 71189.... '858' 121 31 = 59557 71189....	Good//Good Good//Strong	MCW MCW	BR/HFD BR	MON MON

**June 2020:**

No transmissions found in June...

<b>M01b 4895/5340kHz 2010z 01 May 2020</b>
467 (R4m) 121 121 31 31 ==
59557 71189 86090 44597 73433 24882 29284 53689 76857 93444 90778 61304 12327 33435 16352 82942 72237 31029 06367 64824 46131 51518 00421 60516 42633 49752 02992 07939 93762 99145 79545 ==
121 121 31 31 000
<i>Courtesy BR</i>

**M08a** XVIII ICW / CW, some MCW

No reports

**M12** IB ICW, some MCW / CW, short 0. Reuses many freqs year on year.

New ID's may be only for the month/sched shown, but not necessarily unknown . The reason for their reuse, some after long periods of time is unknown.

As is usual, the regular 'core' schedules were missing at the beginning of May as Russia celebrated the May Spring holiday, following 'The Day of Spring & Labour' - previously called 'International Worker's Day', although the M01 transmissions continued without a break!

**Asiatic M12 Scheds**

13426/12126/10226	0210/0230/0250z	04 May	412 1 (608 98)	05282 71220 ... 76021 90664	(Via SDR Khabarovsk)	Danix	MON
	0210/0230/0250z	11 May	412 1 (5887 80)	89243 72897 ... 50612 44365	(Via SDR Khabarovsk)	Danix	MON
	0210/0230/0250z	18 May	412 1 (8285 168)	66344 60494 ... 33370 23491	(Via SDR Khabarovsk)	Danix/HFD	MON
	0210/0230/0250z	25 May	412 1 (8595 180)	53232 20940 ... 98073 26503	(Via SDR Khabarovsk)	Danix	MON
15918/14818/13918	0210/0230/0250z	01 Jun	989 1 (235 186)	64560 73123 ... 74094 52505	(Via SDR Khabarovsk)	Danix	MON
	0210/0230/0250z	08 Jun	989 1 (8339 96)	48084 47556 ... 66624 54553	(Via SDR Khabarovsk)	Danix	MON
	0210/0230/0250z	15 Jun	989 1 (8007 42)	66077 18330 ... 93707 14206	(Via SDR Khabarovsk)	Danix/HFD	MON
	0210/0230/0250z	22 Jun	989 1 (2334 80)	43887 83092 ... 26852 73507	(Via SDR Khabarovsk)	Danix	MON

**European M12 Logs**

**May 2020:** New scheds in bold type

9314/10714/11414	0500/20/40z	03 May	374 000			AB/HFD	SUN
	0500/20/40z	05 May	374 1			HFD	TUE
10714/11414	0520/40z	24 May	374 1 (447 113)	74320 35284 ... 10664 57485 000 000		F5JBR	SUN
9317/ 10484/11522	0530/0550/0610z	12 May	135 1 (3809 110)	30511 48565 ... 19540 10250 000 000		F5JBR	TUE
10183/9083/8083	2210/30/50z	02 May	199 1 (6029 184)	95541 19629....		BR	SAT
	2210/30/50z	16 May	199 1 (3497 128)	74669 10612....		BR	SAT
8083	2250z	23 May	199 1 ( 576 90)	35419 43203 86651 19815 ... 53168 44580 000 000		DanAR	SAT
10843/10243/9243	2100/20/40z	01 May	822 000			HFD	FRI
	2100/20/40z	02 May	822 000			HFD	SAT
	2100/20/40z	16 May	822 1 (4742 56)	47225 79554....		BR	SAT
	2100/20/40z	29 May	822 1 (100 89)	17932 33593....		BR	FRI
	2100/20/40z	30 May	822 1 (100 89)	17932 33593 ... 06294 99531 000 000		Gert	SAT
12162/11566/10711	1710/30/50z	06 May	NRH			AB/BR	WED
	1700/20/40z	07 May	NRH			AB/ER	THU
	1800/20/40z	07 May	NRH			AB	THU
	1710/30/50z	13 May	546 1 (2847 109)	32711 16549....		BR/HFD	WED
	1700/20/40z	14 May	546 1 (5183 107)	12360 83677....		BR/HFD	THU
	1800/20/40z	14 May	546 1 (5822 113)	34315 04640 ... 19877 37962 000 000		Gert/HFD	THU
	1710/30/50z	20 May	546 1 (4485 109)	52833 03707....		BR	WED
	1700/20/40z	21 May	546 1 (7313 111)	36220 69654 ... 35064 79993 000 000		AB	THU
	1800/20/40z	21 May	546 1 (6839 104)	78086 30894 ... 55977 88224 000 000		AB	THU
	1710/30/50z	27 May	546 1 (1517 106)	46098 45627 ? ....	Weak sigs	BR	WED
	1700/20/40z	28 May	546 1 (6233 106)	24546 .3872....	Weak sigs	BR/ER	THU
	1800/20/40z	28 May	546 1 (1995 111)	53946 58674....		BR/ER	THU
12187/10987/10287	1210/30/50z	01 May	192 000			HFD	FRI
	1210/30/50z	06 May	192 1 (5811 14)	16463 21356....		BR	WED
	1210/30/50z	08 May	192 1 (5811 14)	16463 21356....		BR	FRI



	1210/3050z	13 May	192 1 (5811 14)	16463 21356 ... 59577 27846 000 000		BR/F5JBR	WED
	1210/30/50z	15 May	192 1 (5811 14)	16463 21356....		BR	FRI
	1210/30/50z	20 May	192 1 (220 30)	00665 81651 ... 19455 98410 000 000		Gert	WED
	1210/30/50z	22 May	192 1 (220 30)	00665 81651 ... 19455 98410 000 000		Gert	FRI
	1210/30/50z	27 May	192 1 (220 30)	00665 81651....		BR	WED
	1210/30/50z	29 May	192 1 (220 30)	00665 81651 ... 19455 98410 000 000		Gert	FRI
13381/12181/10781	2100/20/40z	04 May	317 000			HFD	MON
	2110/30/50z	07 May	317 000			BR	THU
	2110/30/50z	18 May	317 000			BR	MON
	2110/30/50z	25 May	317 1 (2615 87)	33664 62661....		BR	MON
13423/12123/---	0700/20/40z	05 May	411 000			HFD	TUE
<b>13926/13426/11526</b>	<b>2000/20/40z</b>	<b>18 May</b>	<b>573 1 (3629 71)</b>	<b>48732 89159 ... 20765 30074 000 000</b>		Gert	MON
	2000/20/40z	21 Mar	573 1 (3629 71)	48732 89159 ... 20765 30074 000 000		AB	THU
	2000/20/40z	25 May	573 000			BR	MON
	2000/20/40z	28 May	573 000			BR	THU
<b>14377/13461/12114</b>	<b>2000/20/40z</b>	<b>14 May</b>	<b>317 1</b>			HFD	THU
	2000/20/40z	21 May	317 1 (8773 109)	37202 83713 ... 91079 14953 000 000		AB	THU
	2000/20/40z	28 May	317 1 (3943 110)	46829 66163 ? .... Weak sigs		BR	THU
<b>16113</b>	<b>1600z</b>	<b>17 May</b>	<b>188 000</b>			Gert	SUN
16194/14794/---	1950/2010/2030z	01 May	173 000			HFD	FRI
	1950/2010/2030z	06 May	NRH			BR	WED
	1950/2010/2030z	13 May	173 000			BR	WED
	1950/2010/2030z	15 May	173 000			BR	FRI
	1950/2010/2030z	20 May	173 000			BR	WED
	1950/2010/2030z	22 May	173 000			BR	FRI
	1950/2010/2030z	27 May	173 000			BR	WED
17451/15951/14451	1400/20/40z	04 May	494 1 (253 42)	95855 32366 ... 08709 62613 000 000	NRH/Weak/Good	Gert/HFD	MON
<b>June 2020:</b>							
10223/9323/8023	2210/30/50z	13 Jun	239 1 (3718 78)	03013 16166....		BR	SAT
	2210/30/50z	20 Jun	239 1 (726 66)	32905 87093....		BR	SAT
<b>10317/11517/12217</b>	<b>0500/0520/0540z</b>	<b>02 Jun</b>	<b>352 1 (606 127)</b>	<b>54065 49305 ... 48992 66954 000 000</b>		AB/HFD	TUE
11144/10544/---	2100/20/40z	05 Jun	153 000			HFD	FRI
	2100/20/40z	06 Jun	153 000			BR	SAT
	2100/20/40z	12 Jun	153 000			BR	FRI
	2100/20/40z	19 Jun	153 000			BR	FRI
	2100/20/40z	20 Jun	153 1 (234 21)	21142 28432....		BR	SAT
12162/11566/10711	1710/30/50z	03 Jun	546 1 (2798 104)	89408 53405....		BR/ER	WED
	1700/20/40z	04 Jun	546 1 (8237 108)	53163 69355....		BR/ER	THU
	1800/20/40z	04 Jun	546 1 (8525 108)	0 . .81 55380....		BR/ER	THU
11566	1730z	10 Jun	546 1 (7596 104)		(SDR Utwente)	ER	WED
	1700/20/40z	11 Jun	546 1 (7205 109)	45125 97405....		BR	THU
	1800/20/40z	11 Jun	546 1 (7357 111)	48300 66486) ?....		BR	THU
	1710/30/50z	17 Jun	546 1 (9026 112)	18440 ? 16270....		BR	WED
	1700/20/40z	18 Jun	546 1 (6972 104)	64667 29487....		BR	THU
	1800/20/40z	18 Jun	546 1 (4912 112)	14258 97831....		BR	THU
	1710/30/50z	24 Jun	546 1 (9009 105)	09658 41697....		BR	WED
	1700/20/40z	25 Jun	546 1 (8758 104)	23270 80024....		BR	THU
	1800/20/40z	25 Jun	546 1 (8302 113)	78018 41776....		BR	THU
13384	1210z	03 Jun	314 1 (8488 54)	91287 51527 ... 62406 10759 000 000		Gert	WED
13384/12184/11484	1210/30/50z	05 Jun	314 1 (8488 54)	91287 51527....		BR	FRI
	1210/30/50z	17 Jun	314 000			BR	WED
	1210/30/50z	19 Jun	314 000			BR	FRI
	1210/30/50z	24 Jun	314 000			HFD	WED
<b>13892/13392/11592</b>	<b>2000/20/20z</b>	<b>01 Jun</b>	<b>119 1 (5119 111)</b>	<b>09148 92665 ... 28132 16882 000 000</b>	[Note 1]	AB	MON
	2000/20/40z	04 Jun	119 1 (5119 111)	09148 92665....		BR	THU
	2000/20/40z	08 Jun	119 000			Gert/HFD	MON
	2000/20/40z	11 Jun	119 000			BR	THU
	2000/20/40z	15 Jun	119 1 (6195 127)	65894 43765....		BR	MON
	2000/20/40z	18 Jun	119 1 (6195 127)	65894 43765....		BR	THU
	2000z/20/40z	25 Jun	119 000			BR	THU
	2000/20/40z	29 Jun	119 1 (513 93)	29968 58077....		BR	MON
14377/13461/12114	2000/20/40z	04 Jun	317 1 (6820 103)	2281. 69843....		BR	THU
	2000/20/40z	11 Jun	317 1 (6538 110)	56419 70043....		BR	THU
	2000/20/40z	18 Jun	317 1 (6870 105)	07431 40874....		BR	THU
	2000/20/40z	25 Jun	317 1 (5797 109)	97953 46222....		BR	THU
14493/13393/12193	2110/30/50z	04 Jun	431 000			BR	THU
	2110/30/50z	18 Jun	431 000			BR	THU

	2110/30/50z	25 Jun	431 1 (9666 84)	15612 68512....	BR	THU
	2110/30/50z	29 Jun	431 000		BR	THU
14581/13481/12181	0700/20/40z	09 Jun	541 1 (9208 68)	98479 50509.....etc.	HFD/RNGB	TUE
	0700/20/40z	18 Jun	541 1 (169 36)	16640 48288 22847.....etc.	RNGB	THU
<b>14926/14426/13426</b>	<b>1600/20/40z</b>	<b>03 Jun</b>	<b>944 1 (4207 105)</b>	<b>01184 08477 ... 11785 66081 000 000</b>	AB	WED
16217/14817/---	1950/2010/2030z	03 Jun	284 000		HFD	WED
	1950z	05 Jun	284 000		Gert	FRI
	1950z	17 Jun	284 000		Gert	WED
	1950/2010/2030z	19 Jun	284 000		BR	FRI
	1950/2010/2030z	24 Jun	284 000		BR	WED
	1950/2010/2030z	26 Jun	284 000		BR	FRI

[Note 1] On 2020z transmission: harmonic present on 13464.5 kHz AB

<b>M12 15918/14818/13918kHz 0210/0230/0250z 08 June 2020</b>
989 989 989 1 (R2m) 8339 96 8339 96
48084 47556 53245 65969 69607 28766 82115 54422 95857 99100
68885 20741 62152 02539 30915 50797 14132 24507 65330 03920
48281 86777 22908 87856 10669 07013 79575 67204 08093 40347
34234 57162 22354 80727 17425 35503 64447 42110 40724 02607
48698 46127 64848 15179 29186 53135 36523 99502 12997 97679
22318 79277 97321 97816 92490 90597 40571 78967 12459 95812
79551 88277 38393 57788 12927 44214 62377 65231 76968 13464
32516 75808 58299 76426 26283 14939 64618 65060 07793 72149
74456 20617 81722 29420 23621 92117 88834 79171 12385 13871
72547 60245 60919 87976 66624 54553 000 000
<i>Courtesy Danix</i>

<b>M12 13926/13426/11526kHz 2000/20/40z 18 May 2020</b>
573 573 573 1 (R2m) 3629 71 3629 71
48732 89159 73250 06612 70611 37943 13881 56595 64287 09027
05416 75036 79156 84275 96761 33811 22529 72244 14725 94611
73941 39228 33675 33492 19348 82600 52091 51687 69845 41464
96394 36996 67831 40304 08376 22682 62738 45237 15547 59587
61442 60332 92416 58924 15155 06546 90547 51461 20223 79367
63489 64852 65335 04194 43879 24391 68478 83441 84928 26347
93538 78696 54232 85634 45820 87931 69605 66731 23423 20765
30074 000 000
<i>Courtesy AB / Gert</i>

**M14 IA MCW / ICW Short 0**

**May 2020:**

4650	0900z	02 May	523 (404 33) = 35213 90987 ... 61119 84120 = 0000	ER/HFD	SAT
	0900z	16 May	Present but unreadable	ER	SAT
	0900z	23 May	523 (200 33) = 60945 70231.... Repeat of same msg from 16 May except different DK	ER	SAT
	0900z	30 May	523 Rest unreadable. Very weak signal (SDR Various)	ER	SAT
4730	0800z	02 May	523 (404 33) = 35213 90987 ... 61119 84120 = 00000	ER/HFD	SAT
	0800z	16 May	523 (404 33) = 60945 70231 ... 54321 98765 = 00000 (SDR Poland)	ER	SAT
	0800z	23 May	523 (200 33) = 60945 70231.... Repeat of same msg from 16 May except different DK	ER	SAT
	0800z	30 May	523 Rest unreadable. Very weak signal (SDR Various)	ER	SAT
4760	0000z	04 May	617 (404 33) = 35213 90987 ... 61119 84120 = 00000	AB	MON
4890	2300z	03 May	617 (404 33) = 35213 90987 ... 61119 84120 = 00000	AB	SUN
5938	1920z	13 May	417 (#5#/33) = 60945....	HFD	WED
6856	1820z	12 May	163 (505 33) = 60945 70231 ... 47800 81362 = 00000 (SDR Poland)	ER/HFD	TUE

**June 2020:**

4650	0900z	06 Jun	Very weak - Unreadable signal	ER	SAT
	0900z	13 Jun	523 (808 32) = 60945 70231 ... 60323 47800 = 00000 Sig faded out mid-msg.	ER	SAT
	0900z	20 Jun	523 (302 32) = 98878 54347 ... 45182 31322 = 00000 Several errors noted	AB/ER	SAT
	0900z	27 Jun	523 (404 33) = 60945 70231 ... 54321 98765 = 00000 [Note 1]	ER	SAT
4730	0800z	06 Jun	Very weak - Unreadable signal	ER	SAT
	0800z	13 Jun	523 (808 32) = 60945 70231 ... 60323 47800 = 00000 Sig faded out mid-msg.	ER	SAT
	0800z	20 Jun	Unreadable signal	ER	SAT
	0800z	27 Jun	523 (404 33) = 60945 70231 ... 54321 98765 = 00000 [Note 1]	ER	SAT
6856	1820z	09 Jun	163 (144 33) = 12579 45890 ... 54546 12213 = 00000 S9+10 sig (SDR Poland)	ER	TUE
16347	0930z	10 Jun	617 00000 (SDR Utwente)	ER/HFD	WED
	0930z	25 Jun	617 (380 149) = 42220 85539 ... 67751 97421 = 00000	ER	THU

[Note 1] Repeat of 12May 1820z & 13 June 0800 / 0900z Last 3 groups different.

**M14 4890kHz 2300z 03 May 2020**

617 (R4m) 404 404 33 33 ==

35213 90987 60755 45321 85213 40890 46744 55522 34512 00098  
55511 67845 06780 40404 37213 05634 69734 37085 30340 50562  
23341 25674 75546 60982 63312 93906 58944 30978 11324 14580  
21352 61119 84120 ==

404 404 33 33 00000

*Courtesy AB*

### M23 O ICW

First found by Richard, RNGB, & followed up by Ary. A long run this one. It's been a long time since we heard a message from M23.

Transmissions heard daily until Friday 19 June & have not been heard since.

5345	1430z (IP)	03 Jun	222		RNGB	WED
5345	1500 – 1512z	06 Jun	222 (R12m)		AB	SAT
	1530 – 1542z		222 (R12m)		AB	SAT
5345	1000 – 1005z	07 Jun	129 (R5m)		AB	SUN
	1200 – 1205z		129 (R5m)		AB	SUN
	1430 – 1442z		222 (R12m)		AB	SUN
	1500 – 1512z		222 (R12m)		AB	SUN
	1530 – 1542z		222 (R12m)	(Reported also // on 5731.5kHz via AB)	AB	SUN
5345	1000 – 1005z	08 Jun	129 (R5m)		AB	MON
	1200 – 1205z		129 (R5m)		AB	MON
	1430 – 1442z		222 (R12m)		AB	MON
	1500 – 1512z		222 (R12m)		AB	MON
	1530 – 1542z		222 (R12m)		AB	MON
5345	1000 – 1005z	09 Jun	129 (R5m)		AB	TUE
	1200 – 1205z		129 (R5m)		AB	TUE
	1430 – 1442z		222 (R10m)		AB	TUE
	1500 – 1512z		222 (R12m)		AB	TUE
	1530 – 1542z		222 (R12m)		AB	TUE
5345	1000 – 1005z	09 Jun	129 (R5m)		AB	TUE
	1200 – 1205z		129 (R5m)		AB	TUE
	1430 – 1442z		222 (R10m)		AB	TUE
	1500 – 1512z		222 (R12m)		AB	TUE
	1530 – 1542z		222 (R12m)		AB	TUE

PoSW aslo monitored many of the M23 transmissions – These are his logs;

Slow Morse on 5345 kHz:-

Someone sending a 3F in slow CW on 5345 noted in early June, M23. Never failed to show up on every day on which this frequency was monitored. As the days went by it was noted that two 3Fs were in use, “222” which lasted for twelve minutes and “129” which ran for five minutes. Was not heard before 1000 UTC on any day or after 1530, 4.30 pm in the UK, and was not heard after Friday 19-June.

03-June-20, Wed:- 1436 UTC, 5345 kHz, slow CW sending “222” over and over, don't expect to find much of interest in this part of the short wave spectrum in daylight hours. Stopped in full flow around 1442z.

05-June-20, Fri:- 1200 UTC, just before, starting up with “129”, stopped approx 1205z.  
1430 UTC, before, “222”, stopped before 1442z.  
1500 UTC, “222” again, stopped approx 1512z.  
1530 UTC, “222” until 1542z.

07-June-20, Sun:- 1201 UTC, in progress with “129”, stopped around 1205z.  
1530 UTC minus 10s, “222”, stopped 10s before 1442z.

08-June-20, Mon:- 1200 UTC, before, “129” stopped before 1205z.  
1500 UTC -10s, “222”, stopped before 1512z, a quick pre-transmission blip had been heard around 1457z.  
1530 UTC -10s, starting up “222” again.

09-June-20, Tue:- 1000 UTC, before, earliest time of the day this has been heard, “129”, stopped before 1005z.  
1200 UTC, “129” for five minutes.  
1530 UTC minus 12s, “222”, stopped before 1542z.

10-June-20, Wed:- 1000 UTC, before, “129” for 5 minutes.  
1200 UTC, “129” for 5 minutes, quick blip heard about three minutes before the hour.  
1430 UTC, “222”.  
1500 UTC minus 15s, gets earlier with each passing day, “222” for twelve minutes. A strong FSK/data signal came up for a short while over-riding the CW.  
1530 UTC, before, “222”.

- 11-June-20, Thu:- 1002 UTC, in progress with, "129", stopped about 16s before 1005z.  
 1200 UTC, before, "129" for five minutes.  
 1430 UTC, before, "222" for twelve minutes.  
 1500 UTC -16s, "222".  
 1530 UTC -16s, "222".
- 12-June-20, Fri:- 1000 UTC, before, "129".  
 1530 UTC -19s, "222".
- 13-June-20, Sat:- 1201 UTC, in progress with "129", stopped approx 20s before 1205z.  
 1500 UTC, -20s, "222" for twelve minutes, pre-transmission blip heard before 1559z, strong FSK/data signal came up on the hour, lasted for about one and a half minutes.  
 1530 UTC -20s, "222".
- 15-June-20, Mon 1000 UTC, before, "129" for five minutes.  
 1200 UTC -23s UTC, "129" for five minutes.  
 1530 UTC, before, "222".
- 16-June-20, Tue:- 1430:25s UTC approx, started late for a change, "222".  
 1500:25s UTC, "222".  
 1530:25s UTC, "222".
- 17-June-20, Wed:- 1202 UTC, "129" in progress, stopped 1205:55s approx, must have started really late.  
 1431 UTC approx, late start, "222".  
 1501 UTC, "222".  
 1531 UTC, "222", quick blip heard a few seconds before start.
- 18-June-20, Thu:- 1431:30s, even later start, "222" until 1443:30s.  
 1531:30s UTC, "222".
- 19-June-20, Fri:- 1002 UTC, just before, later still, "129" until about 1007 -4s UTC.  
 1502 UTC, approx, "222" until just after 1514 UTC.  
 1532 UTC, "222".

No sign of this one on the following day, Saturday 20-June, or any day since; has ended unless it has done a QSY to another frequency, if so it has not been found. However, there was some activity noted on this frequency on the 21st, not connected in any way with the M23 I'm sure:-

Thanks Peter – Excellent logs & report.

## Morse Stations - Not Number Related

### M51 XIX

3881//6825 100 grp 5-ltr messages with headers

No reports – M51b format in use

M51a (FAV22) Daily Mon - Fri, Sun & some Sats. See NL 72 for details

3881//6825

1130 - 1201z	16 Jun	Mardi-Leçon	22-2/1 Codé	22-2/2 Clair,	22-2/3 Codé,	22-2/4 Clair (600 grps/hr)	BR	TUE
1130 - 1204z	17 Jun	Mercredi- Leçon	23-2/1 Codé,	23-2/2 Clair,	23-2/3 Codé,	23-2/4 Clair (720 grps/hr)	BR	WED
1130 - 1156z	18 Jun	Jeudi- Leçon	24-2/1 Codé,	24-2/2 Clair,	24-2/3 Codé,	24-2/4 Clair (840 grps/hr)	BR	THU
1130 - 1203z	19 Jun	Vendredi- Leçon	25-2/1 Codé,	25-2/2 Clair,	25-2/3 Codé,	25-2/4 Clair (960 grps/hr)	BR	FRI

M51b Non-stop 5-character groups composed of M51a messages on 3881//6825kHz

3881//6825

1415z	20 May	AB	WED
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Non-stop 5-character stream composed of M51a messages. The spaces between the messages were not transmitted but entered afterwards.

GBCHX WNQJZ AKOLQ PMAIJ NBCVX GSHQJ BXJTG ERZUA QIKLA PMQJK  
 IKHNG 23401 HBCJD SUJET ZUIQH AOLQP MQNHB WJUTF CIDGR UJDOL  
 QPMAU DJSLS WBGCN JHDGX VGDUR HDFCV 74638 UJDGS WJNQU PMAKD  
 XLQUH FGCRZ SGQHA WKQUJ YGHST 46329 OLDHC XBQKA UJQKL IKHNF  
 CVSGZ WHQYA BWHDT QIAIK QLMAP JGHDT VXHSY ZUHSQ JWNHZ KLQPM  
 HNDJS WVXBD QHAUJ TGDUR SJQKI 30187 HBCJF XJQKI HBWGD

GVXHS WNQHA IKDLS MWPZY DGSNA NWJDU DGRUJ WKLSP NJWKE UJSHZ  
 OKHJD BXHRT 36271 IUJFG CBSJZ WHNSL KOLWM AUJDG XBCFV WHNSK  
 OLMQH AYHDG XVCFD BWJZU XIDKC XKJDU HNDIC VPMRY 65378 KLSGQ  
 WNBBDH XVCUR CIKDL PMSVR XVCHE YHFKS ZUYHS 56372 BWVDY IKDHY  
 XBCJS GBWJZ UJWKL JKDBV YHCIR YHXVF GBFYR DFSCZ UJVFC FVCHD  
 FKSLR WCXFE HNFLL PHFCT WVXHZ QJHAU 67354 BXHXY WBXHZ GFCUJ  
 SHRTF CJGUH 10964 GBCHS WBXUY TGDJZ 652/3 BXHSJ WKAPL PMDHV  
 BXGRT DFEXS JNCGV YHXJZ JWKAO KLWUY HNCRD XVCHZ YHWJZ PLGCV  
 TGXLA PMWJD WFRGT CJSIZ WNXGD YHDGV 64829 IKFHC BXHDL VHUUJ  
 VCXGR YHSPA PKLDU LWJDY GHFUC VXYRT DGSNZ LKFHT KHDYT XVDJK

UJDKX VBDJZ WNSHQ XVDKA OLQLP OKHNC VHFUR SHNXJ WVXHZ JSKZI  
 OLDJH VCJSU ZYDFS WBXJS 37281 KJNCG TGDHS 7359/ JNWSK YHDKS  
 OLSJU YHSPL WNDHZ CIAHV XVCGR AIKSP LIJFT 52847 GBWCV VCHFP  
 AIKDM SJWNX KAUID LSORV CHFDZ WHNSJ AIKDP MIKJY HBFVJ LDGCV  
 XBSKZ 63829 UJSLA BWJRY FLQPA MLJIT CHFUZ SBXJS UJQKA ZNWHF  
 YHDKZ SHXVC YHZKQ WBXJZ 53826 ZUJDL NBXJD YHAPS XVCJF 18548



YHDIK XBCKS ZUHDK WNXKZ KIOSL HNWS THZLP WBXKS YHDGV UJSKZ  
 VXYRP SJXLZ WNXKF CJSUR CKSUZ WHNCP LXIET DGSUZ 36528 NBCVX  
 UJKA ZUSFC XVVXV HNXJS IKWLZ OPAJB GVFBH JSYRT FGCJS KJGDS  
 6382/ JNCJD XYHRI SJZIS /4637 XHNDJ SKAPL YHDUT JKDGC BXNQK  
 YTSHA WBXJM XKLDU LDLDU BCHVN GBCJR XVCHU TIGLD UJDKZ 65382  
 BWJSU AKSLQ WPETD GVXJD JSKZI JDHCV XNSKZ

GDJSF WHQGF XVCHR LAHJD XJHDG QLAMO MAJKF YHJIS WBSKA UJDHS  
 LAPMD WJNXV DGRTS AUJDK 56287 WBCJD AJHDU 78352 WBXVC YHDGS  
 WBXLA PMQKU YHDKQ LAPOI BXNWJ THSUZ QHAGU JDKSI 67389 UJDHS  
 YHLPV WJQKA MLGHD JQKYH XVWOL YHSJE 63528 HNXJD SKZUA PMAJG  
 JOALK XNBWJ SJHQL MAPKI HDJRT SGDFX MQPAU 56483 GVXHS WBSJZ  
 IKAGH WBHDL AOKSH QMAPH WBXHR SHZYA 67382 VWBXH SJZUA QAHG

VBCHD WJSYZ JKAOL JNXCD GCHAI WBNBH AOLDP JKSMV HJWKS HDGRY  
 MLJKI HJDLZ UJSGX VCDGR YUZKS WKAOL 63826 UJDKS BXNRY AKSLP  
 LKDHC VXKSU YZHSK QLAPM JKDLB NXJRT 63820 17362 XNDJZ WKQLA  
 PGHFV CLPEU DJKA LWNXI UJFLB NCKFU ZIKDP SMZUH 29463 WBSJZ  
 LFHDV CBXYR SJAPJ NWKDP SKQIL ZUJGD XBSHZ UJSKZ WVXYT HDKAU  
 LKFHC VXBDT VPAKD JNXLS WBXYR DGZU 37284 TGDJX BSJZU WNXHZ

etc. etc. etc.

**M89 O**

This is a summary of activity from the M89 stations.

**Traffic & Operator Chat from M89**

Traffic & Op. chat reported on the following freqs. (All in kHz).

3882	4054	4576	5053	5547	6225	7246	8025	10126	11075
	4068	4581	5064	5611	6226	7272		10374	
	4087	4612	5164	5636	6234	7515			
	4105	4614	5188	5656	6363	7528			
	4107	4657	5198	5781	6528	7607			
	4132	4669	5204	5789	6532				
	4255	4700	5229	5826	6556				
	4288	4779	5268	5867	6577				
	4358	4826	5271	5896	6636				
	4393	4829	5287		6666				
	4490	4841	5341		6676				
	4541	4850	5367						
	4550	4925	5420						
	4552	4983	5512						
	4554	4985	5537						
	4556								

**New Schedules for May / Jun 2020:**

**From logs submitted from JPL & F5JBR**

4860// <del>5640</del> //6840	New frequency for this Round Slip Possibly replaces 5920kHz	First heard 01 May	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ? K (R5)
5367//NRH	New Frequency & Round Slip	First heard 15 May	V FDLK (x3) DE DKGF (x2)
5691//NRH	New Round Slip for this frequency	First heard 22 June	V 2B7D (x3) DE 3GR1 (x2)

The RIS9 Round Slip has been replaced by QYE2 DE 9WFV & is using the following new frequencies: 3596//4888 (Night) 6824//8182 (Day).  
 At times 3 or all 4 frequencies can be active at the same time. The RIS9 Round Slip hasn't been heard since 23 May 2020.

3596//4888//8182	New Frequencies & Round Slip	First heard 07 June	V QYE2 (x3) DE 9WFV (x2)
4888//NRH	New Frequency & Round Slip	First heard 06 June	V QYE2 (x3) DE 9WFV (x2)
4888// <b>8182</b>	New Frequency & Round Slip	First heard 07 June	V QYE2 (x3) DE 9WFV (x2)
4888//6824//8182	New Frequency & Round Slip	First heard 12 June	V QYE2 (x3) DE 9WFV (x2)
6824//NRH	New Frequency & Round Slip	First heard 12 June	V QYE2 (x3) DE 9WFV (x2)
6824//8182	New Frequencies & Round Slip	First heard 07 June	V QYE2 (x3) DE 9WFV (x2)

Freq in KHz	Call Slip
3238//4870	V M8JF (x3) DE RIS9 (x2)
3238//4870//6874	V M8JF (x3) DE RIS9 (x2)
3238//4870//6874//8157	V M8JF (x3) DE RIS9 (x2)
<b>3596//NRH</b>	<b>V QYE2 (x3) DE 9WV (x2)</b>
<b>3596//4888</b>	<b>V QYE2 (x3) DE 9WV (x2)</b>
<b>3596//4888/8182</b>	<b>V QYE2 (x3) DE 9WV (x2)</b>
4192//NRH	V 2B7D (x3) DE 3GR1 (x2)
<b>4192//4489</b>	V 2B7D (x3) DE 3GR1 (x2) (Different R/Slip)
4489//NRH	V HFL2 (x3) DE M6NY (x2)
<b>4489//4192</b>	V HFL2 (x3) DE M6NY (x2) (Different R/Slip)
4860// <b>5640</b> //6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA ?
4860// 6840//8290//8360	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA
4860// 5640//6840//8290//8360	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) QSA
4870//NRH	V M8JF (x3) DE RIS9 (x2)

Freq in kHz	Call Slip
<b>4888//NRH</b>	<b>V QYE2 (x3) DE 9WV (x2)</b>
<b>4888//4182</b>	<b>V QYE2 (x3) DE 9WV (x2)</b>
<b>4888//6824//8182</b>	<b>V QYE2 (x3) DE 9WV (x2)</b>
4898//NRH	V QWS1 (x3) DE 87DS (x2)
<b>5367//NRH</b>	<b>V FDLK (x3) DE DKG (x2)</b>
5691//NRH	V HFL2 (x3) DE M6NY (x2)
<b>5691//NRH</b>	<b>V 2B7D (x3) DE 3GR1 (x2)</b>
<b>5961//10383</b>	V HFL2 (x3) DE M6NY (x2) (Different R/Slip)
<b>6824//NRH</b>	<b>V QYE2 (x3) DE 9WV (x2)</b>
<b>6824//8182</b>	<b>V QYE2 (x3) DE 9WV (x2)</b>
6874//8157	V M8JF (x3) DE RIS9 (x2)
7620//8350	V WNF(x3) DE FXM (x2) (R5) (Hand Sent)
7653//NRH	V 8RVF (x3) DE CV4K (x2)
10383// <b>5691</b>	V 2B7D (x3) DE 3GR1 (x2) (Different R/Slip)

4068		1253z (IP) 16 Jun	RKJI DE NI5U K	(Remote tuner Hong Kong)	JPL	TUE
4132	8YRP	1235z (IP) 07 Jun	Calls to outstations & Exercise traffic 8YRP DE GYHC K R IEC BT XRAP AR K (Exercise related) 8YRP DE J6PK K R R HR WK NR 2052 K (1237z)	(Remote tuner Shenyang)	JPL	SUN
4487	GF5P	1228z (IP) 16 Jun	Calls to various outstations & exercise traffic VV FJE9 DE GF5G K R IEC BT 45.4 AR K (Exercise related) VV FIF3 DE GF5P K IEC BT 2181 AR K (1233z) V BN4P DE GF5P K R IEC BT 285. AR K VVV B1MD DE GF5P K R IEC BT 5457 AR K VV B1WD DE GF5P K NR 799/EX 2038 BT CQ BT CP6/TA AR	(Remote tuner Hong Kong)	JPL	TUE
4490	Z9BV	1241z (IP) 16 Jun	Calls to various outstations & exercise traffic R IEC BT 3851 AR K NR 5809/EX 2042 RMKS CQ BT A4S5/D2D4 AR V B1OY DE Z9BV K V PBZD DE Z9BV K V O3IA DE Z9BV K R 7G NR 5810 CK 91 24 0616 2030 RMKS CQ BT	(Remote tuner Hong Kong)	JPL	TUE
4550		1228z (IP) 16 Jun	NR 4069 CK 75 34 0616 2010 RMKS BT 4118 TO 1015 AR K	(Remote tuner Hong Kong)	JPL	TUE
4556		1220z (IP) 26 May	FF AMTTB AMTTB FF NR 1/EX 0800 BT A1B2/C3N4 AR	(Remote tuner Hong Kong)	JPL	TUE
4614		1225z (IP) 16 Jun	NR 1404/EX 2024 BT	(Remote tuner Hong Kong)	JPL	TUE
4669		1212z (IP) 26 May	R IEC BT 5578 AR K (Exercise related)	(Remote tuner Hong Kong)	JPL	TUE
4681		1221z (IP) 16 Jun	NR 1711/EX TIME 2027 BT D3LH/ZHWN AR SK SK	(Remote tuner Hong Kong)	JPL	TUE
4779		1220z (IP) 16 Jun	NR 1069/EX 2018 BT	(Remote tuner Hong Kong)	JPL	TUE
4826		1215z (IP) 07 Jun	NR 0613/EX 2015 BT IHR7/H8NS AR	(Remote tuner Shenyang)	JPL	SUN
4829	FT5M	1210z (IP) 26 May	Calls to various outstations – Exercise related 3CB2 DE FT5M K (IP – 1231z) R IEC BT SYJU AR K (Exercise related - 1231z) VVV DLJ3 DE FT5M K (1232z) R IEC BT HTGB AR K VVV 7D3E DE FT5M K (1234z) R IEC BT SWXS AR K VVV 2UB8 DE FT5M K (1236z) R IEC BT MC9E AR K	(Remote tuner Hong Kong)	JPL	TUE

VVV 4S7F DE FT5M K (1237z)  
R QSA 2 IEC BT 18AP AR K  
VVV JU86 DE FT5M K (1239z)  
R QSA 2 IEC BT 9ZR8 AR K  
VVV 3KMJ DE FT5M K (1240z)  
IEC BT 182W AR K  
NR 1211/EX 2042 BT (1243z)  
M4L3/D5HO AR  
3CB2 DE FT5M K  
VVV DLJ3 DE FT5M K  
VVV 7D3E DE FT5M K (1245z)  
VVV 2UB8 DE FT5M K  
VVV 4S7F DE FT5M K  
VVV JU8B DE FT5M K (1247z)  
VVV 3KMJ DE FT5M K  
NR 1212 CK 61 34 0526 2030 RMKS CQ BT BT

4841		1214z (IP) 07 Jun	NR 1612/EX 2012 BT A6O/N2M AR QSY LW QSY LW VVV (1215z)	(Remote tuner Shenyang)	JPL	SUN
4850		1334z (IP) 25 Jun	NR 5204 CK 71 39 0625 1100 RMKS 5441810 TO 5441814 BT	(Remote tuner Novosibirsk)	JPL	THU
4925		0925z (IP) 26 Jun	RMKS .032.48 TO 50..943 K (IP – Weak – 0925z)	(Remote tuner South Korea)	JPL	FRI
4983		1332z (IP) 25 Jun	RMKS 393..83 TO 3393186 K	(Remote tuner Novosibirsk)	JPL	THU
5053	HPR9	2058z (IP) 06 Jun	Calls to various outstations – Exercise related VV 34CX DE HPR9 K (IP – Hand sent – 2058z) VV 6JAL DE HPR9 K VV .2JX DE HMR9 K CQZ DE CQ C DE 7JT. JTM7 JTM HR NR 1009 HR WK NR 1009 SK SK (2101z)	(Remote tuner Hong Kong)	JPL	SAT
5164		1120z (IP) 06 Jun	Calls to various outstations – Exercise related VV DX5B DE KVV B EEEEE 7 DE SAT7 (IP – Hand sent – 2031z) VV DX5B DE K R IEC BT 7220 7223 7211 7222 AR K (2032z) (Exercise related) VV GTJ7 DE K (2033z) R IEC BT 7204 7244 7222 7266 AR K VV MN5V DE K (2034z) FF NR 1370/EX 0430 BT A7/DJ2 AR (2035z) VV MN5V K MSG MSG NR 0371 CK 91 27 0607 0430 RMKS CQ BT (2039z)	(Remote tuner Novosibirsk)	JPL	SAT
5188		0922z (IP) 26 Jun	CK 61 22 0626 1700 RMKS 8738514 TO 8730516 K K	(Remote tuner South Korea)	JPL	FRI
5268		1214z (IP) 16 Jun	NR 1614/EX 2008 BT	(Remote tuner Hong Kong)	JPL	TUE
5271		2300z (IP) 03 Jun	40 RMKS 5139424 TO 5130429 K	(Remote tuner Novosibirsk)	JPL	WED
5287		1210z (IP) 16 Jun	NR 1189/EX 2008 BT D8EH/F1.3 AR NR 1189/EX 2009 BT D8./H3 AR NR 1185/EX TIME 2012 BT Q9W4/I2P7 AR Q9W4/S2P7 AR	(Remote tuner Hong Kong)	JPL	TUE
5367	DKGF	1600z 15 May	DKGF Wkg FDLK (Only : FDLK de DKGF V)		F5JBR	FRI
5420		1205z (IP) 16 Jun	NR 10064 /EX 2003 BT S2Q3/D5A1 AR	(Remote tuner Hong Kong)	JPL	TUE
5512		1205z 26 May	26 2003 RMKS 5314 TO 5330 TO .328 TO 5322 TO 5327 TO 5..0 TO 5313 K ( Via Hong Kong)		JPL	TUE
5537		1220z (IP) 25 Jun	FFF NR 3436/EX 2021 BT A4SO/D5W2 AR	(Remote tuner Novosibirsk)	JPL	THU
5633	XCA8	1231z (IP)	Calls to various outstations & message VV CXF DE XCA8 K VV DF8T DE XCA8 K VV BTX DE XCA8 K VV JKR3 DE XCA8 K VV NWZ3 DE XCA8 K NR1071/EX 2035 RMKS CQ BT L0R3/N8Y6 AR VV .QE2 DE XCA8 K VV CBX3 DE XCA8 K VV 2WEA DE XCA8 K	(Remote tuner Novosibirsk)	JPL	THU
5636		1227z (IP) 25 Jun	FFF NR 3438/EX 2027 BT D0F2/G6B7 AR	(Remote tuner Novosibirsk)	JPL	THU
5656	FWRA	1238z (IP) 25 Jun	R IEC BT 6TU9 AR VV XH8P DE FWRA K	(Remote tuner Novosibirsk)	JPL	THU
5789	A9UC	1241z (IP) 25 Jun	Calls to various outstations, changed call sign & message RMKS CQ BT M8NJ/B5.3 AR VV X8KA DE A9UC K VV 4KMG DE A9UC K	(Remote tuner Novosibirsk)	JPL	THU

			VV TR8F DE A9UC K VV N6IJ DE A9UC K VV DP9D DE A9UC K VV D2MA DE A9UC K VV 9.ZX DE A9UC K VV AJ6Q DE A9UC K VV UQ9P DE ZZZK6 K (Changed call sign) MSG NR 1452 CK 61 36 0625 2030 RMKS CQ BT			
	ZZK6					
5867	VEF3	1252z (IP) 25 Jun	From traffic – Calls to various outstations VV NXY8 DE VEF3 QSL ? K VV GW78 DE VEF3 QSL ? K VV FSOR DE VEF3 QSL ? K FE32 DE VEF3 QSL ? K	(Remote tuner Novosibirsk)	JPL	THU
6636		1320z (IP) 25 Jun	CK 79 52 0625 2100 RMKS 214046 TO 2135941 BT BT	(Remote tuner Novosibirsk)	JPL	THU
6666		1307z (IP) 25 Jun	R IEC 3257 AR K (IP –Exercise related) NR 0030 CK 11 24 0625 2110 RMKS IGS1 TO ISEA CY HW ? K	(Remote tuner Novosibirsk)	JPL	THU
7607		2241z (IP) 03 Jun	NR 059 CK 91 83 0604 RMKS	(Remote tuner Khabarovsk)	JPL	WED

<b>M89</b>	<b>4105kHz</b>	<b>1240 (IP) - 1249z</b>	<b>07 June 2020</b>
R WK NR ? K		(IP - 1240z)	
R AS			
<b>VVV STEL DE FPZN K</b>		(1240z)	
FFF NR 1DE EEE			
<b>FF NR 1618/EX 2040 RMKS CQ BT</b>			
<b>A9F8/H114 AR</b>			
<b>NR 1618/EX 2040 RMKS CQ BT</b>			
<b>A9F8/H114 AR</b>			
<b>NR 1618/EX 2040 RMKS CQ BT</b>			
<b>A9F8/H114 AR</b>			
<b>VVV JMXC DE FPZN K</b>		(1242z)	
R QSL ? K			
R AS			
<b>VVV EUA7 DE FPZN K</b>			
R AS			
<b>VVV WPL7 DE FPZN K</b>		(1244z)	
R AS			
<b>VVV YM6Z DE FPZN K</b>			
R AS			
<b>VVV XDS4 DE FPZN K</b>		(1246z)	
R QSL ? K			
R AS			
<b>VVV B8VX DE FPZN K</b>			
R QSL ? K			
R AS			
<b>VVV STEL DE FPZN K</b>		(1248z)	
<b>NR .19 CK 61 59 0607 2030 RMKS CQ BT</b>			
BT 56U NUD3 TND7 5NU3 (Cont'd – fading – 1249z)			

<b>M89</b>	<b>5633kHz</b>	<b>1231 - 1235z</b>	<b>25 June 2020</b>
<b>VV CXF DE XCA8 K</b>		(IP – 1231z)	
<b>VV DF8T DE XCA8 K</b>			
<b>VV BTX DE XCA8 K</b>			
<b>VV JKR3 DE XCA8 K</b>			
<b>VV NWZ3 DE XCA8 K</b>		(1232z)	
R QSA 3 QSA ? K		(1233z)	
F GA HR F GA			
<b>NR1071/EX 2035 RMKS CQ BT</b>			
<b>L0R3/N8Y6 AR</b>			
<b>NR 1071/EX 2035 RMKS CQ BT</b>			
<b>L0RJ/N8Y6 AR</b>			
<b>VV .QE2 DE XCA8 K</b>			
<b>VV CBX3 DE XCA8 K</b>			
<b>VV 2WEA DE XCA8 K</b>		(1235z)	
<b>M89</b>	<b>5537kHz</b>	<b>1220 - 1222z</b>	<b>25 June 2020</b>
WQ74		(IP – Cont'd – 1220z)	
<b>FFF NR 3436/EX 2021 BT</b>			
<b>A4S0/D5W2 AR</b>			
<b>FFF NR 3436/EX 2021 BT</b>			
<b>A4S0/D5W2 AR</b>			
<b>FFF NR 3436/EX 2021 BT</b>			
<b>A4S0/D5W2 AR</b>			
<b>FFF NR 3436/EX 2021 BT</b>			
<b>A4S0/D5W2 AR QSY 13 QSY 13 VVV (Silent - 1222z)</b>			
			<i>Courtesy JPL</i>

**M95** O XSV, XSV70, XSV85

**M95 Morse Logs (Bold type indicates new logging)**

3642//NRH	<b>Call Sign 3A7D</b>	(Active daily - only first marker log has been included)			
3642//7602	<b>Call Sign 3A7D</b>	(Active daily - only first marker log has been included)			
3968//NRH	<b>Call Sign SAQC (Previously 3A7D)</b>	<b>Suspect change in frequency and Round Slip for DKG6 DE 3A7D</b>			
	1655z	11 May V YHDX (x3) DE SAQC (x2)	(Remote tuner Novosibirsk)	JPL	MON
	2018z	06 Jun V YHDX (x3) DE SAQC (x2)	(Remote tuner Novosibirsk)	JPL	SAT
3968//6936	<b>Call Sign SAQC (Previously 3A7D)</b>	<b>Suspect change in frequency and Round Slip for DKG6 DE 3A7D</b>			
	1807z	01 May V YHDX (x3) DE SAQC (x2)	(Remote tuner Kazakhstan)	JPL	FRI
4131//NRH	<b>Call Sign SLBC</b>	<b>(Reclassified from M89 due to Message Format)</b>			
	1809z	01 May V JKDJ (x3) DE SLBC (x2)	(Remote tuner Kazakhstan)	JPL	FRI
4131//4886	<b>Call Sign DKGf</b>	<b>Previously Unknown Round Slip – Replaces JKDJ DE SLBC</b>			
	1531z	09 May V FDLK (x3) DE DKGf (x2)	(Remote tuner Novosibirsk)	JPL	SAT



4243//NRH	Message number differs from current XSV70 and XSV85 message numbers. 2343 (IP) - 2357z	09 May	NR 02. CK 15 35 0510 0618 BT NR 076 CK 39 35 0510 0631 BT NR 19 CK 094 35 0510 0706 BT	(Remote tuner Hebei)	JPL	SAT
	1148 (IP) - 1154z	23 May	NR 059 CK 31 35 0523 1612 BT NR 46 CK 195 35 0523 1627 BT	(Remote tuner Hebei)	JPL	SAT
	1145 (IP) - 1155z	03 Jun	NR 026 CK 40 35 0603 1515 BT NR 092 CK 21 35 0603 1616 BT NR 06 CK 149 35 0603 1636 BT	(Remote tuner Shanghai)	JPL	WED
	1147 (IP) - 1156z	06 Jun	NR 032 CK 54 35 0606 1537 BT NR 12 CK 120 35 0606 1553 BT	(Remote tuner South Korea)	JPL	SAT
	1151 (IP) - 1153z	07 Jun	NR 14 CK 141 35 0607 1548 BT	(Remote tuner Hong Kong)	JPL	SUN
	1149 (IP) - 1152z	22 Jun	NR 24 CK 163 35 0612 1601 BT	(Remote tuner Hong Kong)	JPL	FRI
4243//9054	Message number differs from current XSV70 and XSV85 message numbers.  Recently 9054kHz has been NRH. It now appears that the transmitter for 9054kHz transmits for a short while, then goes off the air. Transmits for approximately 7 seconds, then silent for 14 seconds. Makes you wonder how anyone can receive a message this way...				JPL	
	1143 (IP) - 1234z	01 May	NR 02 CK 197 35 0501 1555 BT NR 086 CK 18 35 0501 1608 BT NR 059 CK 61 35 0501 1619 BT	(Remote tuner South Korea)	JPL	FRI
	1143 (IP) - 1158z	09 May	NR 075 CK 62 35 0509 1612 BT NR 18 CK 206 35 0509 1620 BT	(Remote tuner Hebei)	JPL	SAT
	1142 (IP) - 1156z	11 May	NR 079 CK 47 35 0511 1527 BT NR 22 CK 231 35 0511 1615 BT	(Remote tuner South Korea)	JPL	MON
	1146 (IP) - 1202z	18 May	NR 093 CK 68 35 0518 1528 BT NR 36 CK 245 35 0518 1600 BT	(Remote tuner Hong Kong)	JPL	MON
	1142 (IP) - 1152z	22 May	NR 002 CK 31 35 0522 1545 BT NR 44 CK 170 35 0522 1552 BT	(Remote tuner Hebei)	JPL	FRI
	2340 (IP) - 2356z	22 May	NR 057 CK 25 35 0523 0613 BT NR 003 CK 31 35 0523 0643 BT NR 45 CK 115 35 0523 0705 BT	(Remote tuner Hebei)	JPL	FRI
	1145 (IP) - 1148z	26 Jun	NR 52 CK .33 35 0626 1540 BT	(Remote tuner Hong Kong)	JPL	FRI
4283//7553	Call sign XSV70 0934 (IP) - 0948z	26 Jun	NR 541 CK 92 35 0626 0705 NR 542 CK 123 35 0626 1505	(Remote tuner South Korea)	JPL	FRI
4364//NRH	Call Sign XSV85 1137 - 1146z	23 May	NR 0414 CK 297 35 0523 0548 BT	(Remote tuner Hong Kong)	JPL	SAT
4364//8073	Call Sign XSV85 1130 - 1140z 1134 - 1138z 1133 - 1140z 1130 - 1145z	01 May 09 May 11 May 22 May	NR 0358 CK 189 35 0501 1626 BT NR 0374 CK 166 35 0509 1617 BT NR 0378 CK 181 35 0511 1608 BT NR 0412 CK 349 35 0522 1617 BT	(Remote tuner Hong Kong) (Remote tuner Hong Kong) (Remote tuner Hong Kong) (Remote tuner Hong Kong)	JPL JPL JPL JPL	FRI SAT MON FRI
	1135 - 1142z 1133 - 1141z 1130 - 1149z 1130 - 1143z	03 Jun 06 Jun 12 Jun 26 Jun	NR 0437 CK 342 35 0603 1614 BT NR 0443 CK 279 35 0606 1604 BT NR 0465 CK 457 35 0612 1611 BT NR 0503 CK 149 35 0626 1556 BT	(Remote tuner Hong Kong) (Remote tuner Hong Kong) (Remote tuner Hong Kong) (Remote tuner Hong Kong)	JPL JPL JPL JPL	WED SAT FRI FRI
5177//NRH	Call Sign DKGf 1212z	09 May	<b>Previously Unknown Round Slip – Replaces JKDJ DE SLBC</b> V FDLK (x3) DE DKGf (x2)	(Remote tuner Novosibirsk)	JPL	SAT
5367//NRH	Call Sign DKGf 2201z	28 May	V FDLK (x3) DE DKGf (x2)	(Remote tuner Novosibirsk)	JPL	THU
	1122z	03 Jun	V FDLK (x3) DE DKGf (x2)	(Remote tuner Novosibirsk)	JPL	WED
5479//NRH	Call Sign SAQC 1208z	(Active daily - only first marker log has been included) 09 May	V YHxD (x3) DE SAQC (x2)	(Remote tuner Novosibirsk)	JPL	SAT
	1123z	03 Jun	V YHxD (x3) DE SAQC (x2)	(Remote tuner Novosibirsk)	JPL	WED
5479//10722	Call Sign SAQC 0701z	(Active daily - only first marker log has been included) 15 May	V YHxD (x3) DE SAQC (x2)	(Remote tuner Novosibirsk)	JPL	FRI
	1111z	06 Jun	V YHxD (x3) DE SAQC (x2)	(Remote tuner Novosibirsk)	JPL	SAT
5600	1257 (IP) - 1300z NR 095/CCK CK DT 4UT.6UT.7 RMKS 3081 TO 3050 3052 TO 3023 TO 3001 K K	26 May		(Remote tuner Hong Kong)	JPL	TUE
8073	Usual format is Initial call-up in voice USB, then to digital 4+4 mode LSB, finally, switching to CW CW call-up is V BNGC (x3) DE XSV85 (x2) 1137 (IP) - 1140z	26 May	NR 0421 CK 194 35 0526 1602 BT	(Remote tuner Hong Kong)	JPL	TUE
8156//NRH	Call Sign SLBC 1050z	01 May	(Reclassified from M89 due to Message Format) V JKDJ (x3) DE SLBC (x2)	(Remote tuner Khabarovsk)	JPL	FRI

**M95 4243//9054kHz 1143 - 1234z 01 May 2020**

Chinese digital 4+4 QPSK 75/3000 LSB 1143z

Tech issues - Signal comes on (7 secs), then off (14 Secs)

Switched to CW – Hand sent – 1150z

VV HR MSG TO YR PSE CY (1151z)

**NR 02 CK 1** (CW signal also cutting in and out – 1152z)

TT 3U6 3A. (Cont'd – 1153z)

AR 7G AGN (1205z)

**NR 02 CK 197 35 0501 1555 BT**

(Technical issue seems to be fixed now)

UTU TTA 3U6 3A4 TTU 773 35A N3. 353 (Cont'd – 1206z)

AR A HR 7G GA (1219z)

**NR 086 CK 18 35 0501 1608 BT**

UT5 TTA 3U6 3A4 TTA TTU TT3 773 35A U4T

353 36U 4AD 446 336 467 4D4 3DU AR (1221z)

7G AGN

**NR 086 CK 18 35 0501 1608 BT** (1222z)

AR A HR 7G GA

**NR 059 CK 61 35 0501 1619 BT**

5AA UTT TTA 3U6 3A4 5T7 5TD 75U 353 N3D (Cont.– 1224z)

AR 7G AGN

**NR 059 CK 61 35 0501 1619 BT** (Repeats message – 1227z)

AR A HR UP SB WK (1231z)

(Switched to voice – USB – Female – Chinese)

(Now V26 sked – 1234z)

*Courtesy JPL*

**M95 4364//8073kHz 1130 - 1140z 01 May 2020**

**BNGC DE XSV85**

Into Voice - USB - Chinese Female (1130z)

Switched to Chinese digital 4+4 QPSK 75/3000 LSB (1132z)

Still having technical issues

Switched to CW – Hand sent – (1136z)

**V BNGC (x3) DE XSV85 (x2)** (1136z)

HR MSG GA PSE CY (1139z)

**NR 0358 CK 189 35 0501 1626 BT**

TTA 3U6 3AN 3U7 TAU 773 353 363 4TD NN3 (Cont'd – 1140z)

**M95 5600kHz 1257 - 1300z 26 May 2020**

7G NR .95 F CK K (IP – Hand sent – 1257z)

7G NR 0.5/CK CKM E

7G GA MSG EEEEE

MSG GA NR 095/CCK CK DA ..F 004 RMKS

**MSG GA NR 095/CCK CK DT 4UT.6UT.7 RMKS 3081 TO**

**3050 3052 TO 3023 TO 3001 K K** (1259z)

R GA K (Both stations on this frequency)

7G 1P BT BT .A3T 7DENU 737. N37. (Cont'd – 1300z)

*Courtesy JPL*

**Contributors:**

AB, BR, DanAR, Danix, ER, F5JBR, Gert, HFD, JPL PoSW, RRGB *Thank you all for your logs.*



PoSW's E06 logs:

**First + Third Thursdays in the Month 2030 UTC Schedule:-**

7-May-20:- 5945 kHz, started about 20 seconds before the half hour, call "724", DK/GC "446 446 42 42", strong signal, slight interference from broadcast station side-band splash on close frequency. Ended before 2041 UTC, computer shut-down sounds shortly after.

4-June-20:- 5951 kHz, "724" and "446 446 42 42" again, complete with computer shut-down sounds after end of transmission.

**Friday 2130 UTC Following First + Third Thursdays:-**

8-May-20:- 5731 kHz, late start, no voice heard until after 2133 UTC, went into DK/GC after just a few seconds, "446 446 42 42", as heard on previous day.

22-May-20:- 5731 kHz, call "315", DK/GC "580 580 44 44", not too strong.

5-June-20:- 5731 kHz, "315" and "580 580 44 44" again, much stronger signal than on 22-May. Ended 2141:30s UTC followed by computer shut-down sound.

## **E07**

PoSW's logs:

**Monday + Wednesday Schedule, 1900 UTC Start:-**

4-May-20, Monday:- 1900 UTC, 17472 kHz, "483 483 483 000", weak but clear.  
1920 UTC, 15872 kHz, second sending much stronger, well over S9.

6-May-20, Wednesday:- 1900 UTC, 17472 kHz, very weak signal, unreadable.  
1920 UTC, 15872 kHz, "483 483 483 000", weak signal in contrast with Monday's transmission.

18-May-20, Monday:- 1900 UTC, 17472 kHz and 1920 UTC, 15872 kHz, both S7 to S8, "483 483 483 000".

20-May-20, Wednesday:- 1900 UTC, 17472 kHz and 1920 UTC, 15872 kHz, "483 483 483 000".

3-June-20, Wednesday:- 1900 UTC, 16328 kHz, "384 384 384 1" for a full message, DK/GC "672 91" x 2, weak signal.  
1920 UTC, 14828 kHz, stronger.  
1940 UTC, 13428 kHz, strongest of the three transmissions.

8-June-20, Monday:- 1920 UTC, 14828 kHz, "384 384 384 000", peaking S8, 1900z sending on 16328 was too weak to copy.

15-June-20, Monday:- 1900 UTC, 16328 kHz, "384 384 384 000", weak signal.  
1920 UTC, 14828 kHz, much stronger, S9+, what a contrast.

17-June-20, Wednesday:- 1900 UTC, 16328 kHz and 1920 UTC, 14828 kHz, both around S6,  
"384 384 384 000".

22-June-20, Monday:- 1900 UTC, 16328 kHz, "384 384 384 1", DK/GC "865 95" x 2, weak signal.  
1920 UTC, 14828 kHz, stronger.  
1940 UTC, 13428, strongest.

**Sunday + Wednesday Schedule, 1700 UTC Start:-**

3-May-20, Sunday:- 1700 UTC, 13934 kHz, "919 919 919 1", DK/GC "9954 1222 x 2, started off 7 to 8 on the S-meter, became weaker by 1708z.  
1720 UTC, 12134 kHz, S7.  
1740 UTC, 10934 kHz, weaker.

6-May-20, Wednesday:- 1700 UTC, 13934 kHz, "919 919 919 000", weak, clear.  
1720 UTC, 12134 kHz, much stronger, over S9.

10-May-20, Sunday:- 1700 UTC, 13934 kHz, S7 and 1720 UTC, 12134 kHz, over S9, "919 919 919 000".

13-May-20, Wednesday:- 1700 UTC, 13934 kHz, "919 919 919 1", this schedule has sent long messages on several occasions in the past couple of years and such was the case this evening, DK/GC "8762 236" x 2, ended around 1726 UTC, strength around S6.  
1731 UTC, 12134 kHz, stronger, over S9.  
1806 UTC, 10934 kHz, third sending in progress, missed start, weak signal.

20-May-20, Wednesday:- 1700 UTC, 13934 kHz, "919 919 919 000", weak.  
1720 UTC, 12134 kHz, much stronger, S9+.

24-May-20, Sunday:- 1700 UTC, 13934 kHz, "919 919 919 000", interference from a strong pulse signal extending from about 13930 to 13955 kHz.  
1720 UTC, 12134 kHz, over S9.

3-June-20, Wednesday:- 1700 UTC, 13368 kHz, "354 354 354 000", strong signal.  
1720 UTC, 11568 kHz, slightly weaker.



7-June-20, Sunday:- 1700 UTC, 13368 kHz, "354 354 354 000", strong.  
1720 UTC, 11568 kHz, weaker.

17-June-20, Wednesday:- 1700 UTC, 13368 kHz, "354 354 354 1", another of those exceptionally long messages, DK/GC "3936 194" x 2, ended just before 1722 UTC, strong signal.  
1727 UTC, just after, 11568 kHz, second sending, strong.  
1753 UTC, just before, 10468 kHz, S8.

21-June-20, Sunday:- 1700 UTC, 13368 kHz, "354 354 354 1", DK/GC "8373 243" x 2, another long message, ended around 1726:30s UTC, strong signal.  
1731:40s UTC, 11568 kHz, strong signal.  
1803 UTC, after, 10468 kHz, weakest, S7.

#### Sunday Schedule, 0600 UTC Start:-

3-May-20:- 0621 UTC, 11117 kHz, second sending found in progress, "312 312 312 000".

10-May-20:- 0600 UTC, 10317 kHz, "312 312 312 000", S7.  
0620 UTC, 11117 kHz, peaking over S9.

17-May-20:- 0600 UTC, 10317 kHz and 0620 UTC, 11117 kHz, "312 312 312 000".

31-May-20:- 0600 UTC, 10317 kHz, S6 and 0620 UTC, 11117 kHz, S9, "312 312 312 000".

7-June-20:- 0600 UTC, 10317 kHz, no change of frequencies in June and a "full message" for a change, "312 312 312 1", DK/GC "166 55" x 2, strong signal.  
0620 UTC, 11117 kHz, peaking over S9.  
0640 UTC, 12217 kHz, also over S9.

14-June-20:- 0600 UTC, 10317 kHz, "312" and "166 55" again, S6 to S7.  
0620 UTC, 11117 kHz and 0640 UTC, 12217 kHz, repeats, both S9.

#### Saturday Schedule, 1300 UTC Start:-

9-May-20:- 1300 UTC, 12176 kHz, "152 152 152 000".  
1320 UTC, 11576 kHz, second sending, both around S7, same frequencies as in April.

16-May-20:- 1300 UTC, 12176 kHz and 1320 UTC, 11576 kHz, both S8 to S9, "152 152 152 000".

23-May-20:- 1300 UTC, 12176 kHz, "152 152 152 000", strong signal, weaker "XJT" heard underneath.  
1320 UTC, 11576 kHz, strong.

6-June-20:- 1300 UTC, 12176 kHz, again no change of frequencies, "152 152 152 1", full message, DK/GC "166 55" x 2. Just realised this is the same message as sent by the Sunday 0600z E07 on 7 & 14-June. Very strong signal.  
1320 UTC, 11576 kHz, strong.  
1340 UTC, 10276 kHz, third sending, also strong.

13-June-20:- 1300 UTC, 12176 kHz, "152" and "166 55" again, strong signal.  
1320 UTC, 11576 kHz, weaker and 1340 UTC, 10276 kHz, weaker still.

20-June-20:- 1300 UTC, 12176 kHz, "152" and "166 55" yet again, strong signal, weaker "XJT" underneath.  
1320 UTC, 11576 kHz and 1340 UTC, 10276 kHz, repeats, both strong.

#### **Others' Logs:**

##### **Sunday**

##### **May 2020**

<b>0600z</b>	<b>10317kHz</b>	<b>0620z</b>	<b>11117kHz</b>	<b>0640z</b>	<b>12217kHz</b>
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10/05	312 000					0600z Fair, 0620z Strong
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##### **June 2020**

07/06	312 166 55 32363 ... 54705 000 000					Ary	SUN
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312 312 312 1 166 55 166 55  
32363 84759 06536 10868 31777 30316 54000 36002 45540 83244  
18134 81634 03599 80280 86106 87160 74222 03412 24823 59616  
67694 51661 56360 64721 40923 73218 21668 50816 10512 03787  
89430 69015 96561 81339 60814 40580 01203 95748 75197 39834  
44276 64068 24238 36122 69551 43585 86727 80528 21358 51953  
21714 78126 96064 41096 54705 000 000 *Courtesy Ary*

21/06	312 1 166 55 32363 ... 54705 000 000					Strong
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##### **Sunday/Wednesday**

**May 2020**

1700z	13394kHz	1720z	12134kHz	1740z	10934kHz	
03/05		919 1 9954 122 52379 ... 22997 000 000				Weak
06/05		919 000				Weak
10/05		919 000				1700z Weak, 1720z Strong
13/05		919 1 8762 236 03149 ... 39596 000 000				Fair
		Note revised start times: 1731 and 1802z due to transmission duration			[26m lg]	

919 919 919 1 8762 236 8762 236  
 03149 60346 68886 75108 65608 19332 03693 67999 19606 49981  
 67141 38417 68870 02854 58633 24451 30501 48367 85772 53979  
 02682 73720 73613 78554 16294 75961 57948 88366 44957 64417  
 20587 14706 94825 82710 18831 04158 31192 52003 09438 32494  
 90330 04948 22603 20328 69156 06438 78757 50101 55882 70187  
 13241 71420 95170 15139 02811 76963 61314 10948 47978 17840  
 83370 59673 48325 81390 63357 74635 73553 82346 51882 79074  
 00452 18883 62846 06946 58808 32560 16789 97649 78672 48135  
 17091 40950 99923 49008 02605 38267 99349 97883 52424 24556  
 04647 97877 91061 11567 96421 78593 66607 58086 57304 27078  
 39726 34740 31873 83967 33652 08438 26559 18831 33452 99881  
 88371 89932 84435 71214 56997 71497 06701 48535 36669 01055  
 33480 40666 11777 09355 42666 21508 66654 89843 37402 82374  
 09736 08265 12978 49847 75449 02916 51951 55303 14322 40398  
 82259 02602 30568 32711 71788 51196 33440 71285 56636 14363  
 14705 33674 61680 65819 21282 75729 24351 08484 97187 16665  
 24885 37903 80113 27267 84644 14997 43533 35062 92200 24762  
 60256 21441 50290 80955 75907 56677 06466 68515 79877 80135  
 81473 12240 34625 53625 08584 75981 63264 65556 30013 96122  
 91740 56612 75853 24384 09124 51320 77397 49734 07860 48646  
 97684 61850 56410 11238 29553 40959 45006 53768 82259 81692  
 44098 74785 00772 07446 47121 95292 95112 22020 17397 71812  
 68479 90922 53676 40350 50466 62399 39838 27934 79428 58585  
 90263 45886 72749 72438 26425 39596 000 000 *Courtesy Ary*

17/05		919 1 8762 236 03149 ... 39596 000 000				[1700z Strong]	Fair
20/05		919 000					1700z Weak, 1720z Strong
24/05		919 000					Strong
27/05		919 000					Strong
31/05		919 000					Fair

**June 2020**

1700z	13368kHz	1720z	11568kHz	1740z	10468kHz		
03/06		354 000					Fair
07/06		354 000					1700z Strong, 1720z Weak
10/06		354 1 3936 194 70562 ... 71521 000 000				[1700z Fair]	Weak
		[Note revised start times due to msg txt duration; 1700, 1727 and 1753z]					
14/06		354 1 3936 194 70562 to 71521 000 000					Weak
17/06		354 1 3936 194 70562 ... 71521 000 000				[1700z Fair]	Weak
21/06		354 1 8373 243 64022 ... 19051 000 000					Weak
24/06		354 1 8373 243 64022 ... 19051 000 000					Weak
		[Note revised start times due to msg txt duration; ; 1700z, 1732z and 1803z]					
28/06		354 1 8373 243 64022 ... 19051 000 000					Weak

**Monday/Wednesday**

**May 2020**

1900z	17472kHz	1920z	15872kHz	1940z	14372kHz		
04/05		483 000					1900z Weak, 1920z Strong
06/05		483 000				[1900z NRH]	Weak
11/05		483 1 617 89 12932 ... 29259 000 000				[1900/1920z Dutch SDR]	Weak
13/05		483 1 617 89 12923 ... 29259 000 000					Weak

483 483 483 1 617 89 617 89  
 12932 60250 83753 85482 75123 23015 87278 14500 62795 37326  
 62832 97317 60674 21197 93258 15490 51667 01006 22110 24172  
 04790 57074 79608 15517 57449 02563 77118 11345 48822 13266  
 70422 55254 85615 09314 90900 75637 28938 06767 94402 95084  
 89387 72569 67896 80272 30178 29214 70212 19470 51327 78595  
 94848 47813 29096 07981 40019 32765 33321 68261 32709 05560  
 78488 42622 42017 56357 91919 43175 93169 02420 01727 19463  
 26111 47818 13756 02691 00340 95473 18338 41233 48200 01952  
 11802 65117 33948 71945 07968 88256 86400 75343 29259  
 000 000 *Courtesy Ary*

18/05	483 000	Fair
20/05	483 000	Weak
25/05	483 000	Weak
27/05	483 000	Weak

**June 2020**

1900z	16328kHz	1920z	14828kHz	1940z	13428kHz	
01/06	384 1 672 91 75251 ...	17842 000 000				Weak
03/06	384 1 672 91 75251 ...	17482 000 000			[1900z Weak]	Fair
08/06	384 000				[1900z Dutch SDR]	Weak
10/06	384 000					Weak
15/06	384 000					1900z Weak, 1920z Very strong
17/06	384 000					Weak
22/06	384 1 865 95 54664 ...	37565 000 000				Weak
24/06	384 1 865 95 54664 ...	37565 000 000			[1900z Weak]	Fair
29/06	384 000				[1920z Fair]	Strong

**Tuesday/Friday**

**May 2020**

0700z	16246kHz	0720z	18446kHz	0740z	19246kHz	
01/05	242 1 587 118 10981 ...	96039 000 000			[0720z Unworkable, 0740z NRH]	Weak, Dutch SDR
08/05	242 000					Weak, Dutch SDR
12/05	242 1 5543 58 53534 ...	09330 000 000			[0700z Unworkable, 0720z QRM*, 0740z QSB*]	Weak *DutchSDR
15/05	242 1 5543 58 53534 ...	09330 000 000				Weak Dutch SDR
19/05	242 000				[0720z DutchSDR]	Weak
22/05	242 000				[0720z DutchSDR]	Weak
26/05	242 1 5543 58 53534 ...	09330 000 000				Weak
29/05	242 1 5543 58 53534 ...	09330 000 000				Weak

**June 2020**

0700z	16331kHz	0720z	18731kHz	0740z	19331kHz	
02/06	373 000					Weak
05/06	373 000				[0720z Dutch SDR]	Weak
09/06	373 1 1437 58 85586 ...	46007 000 000			[0720z Dutch SDR]	Weak
16/06	373 1 604 147 92767 ....	QSB to nil			[0740z NRH]	Weak QSB
19/06	373 1 604 147 92767 ...	71917 000 000			[0720z DutchSDR, 0740z Unworkable]	Weak
23/06	373 000					Weak
26/06	373 000				[0720z NRH]	Weak

30/06 373 1 310 82 42059 ... 85602 000 000 [0720/0740z NRH] Weak, Dutch SDR

**Tuesday/Friday**

**May 2020**

<b>1100z</b>	<b>19695kHz</b>	<b>1120z</b>	<b>17459kHz</b>	<b>1140z</b>	<b>16159kHz</b>	
01/05	641 000					Weak
05/05	641 1 5249 46 60758 ... 79200 000 000			[1100z NRH]		Weak
08/05	641 1 5249 46 60758 ... 79200 000 000			[1100/1120z (Dutch SDR)]		Weak
12/05	641 1 247 44 32478 ... 69614 000 000					Weak, DutchSDR

641 1 247 44  
32478 83410 81160 74678 22995 50150 31784 26526 79906 77213  
80753 73952 23239 75686 66936 87369 00683 58406 59191 08366  
30507 95754 66318 04723 45578 05590 60407 17707 09733 90087  
93266 27469 22591 98064 91413 63427 22943 72697 043?5 64419  
12873 12204 48684 69614  
000 000

*Courtesy dmhz*

15/05	641 1 247 44 32478 ... 69614 000 000			[1100z DutchSDR]		Weak
19/05	641 1 565 74 97559 ... 16739 000 000					Weak
22/05	641 1 565 74 97559 ... 16739 000 000			[1140z Fair]		Weak
27/05	641 1 631 144 76078 ... 63978 000 000					Weak
29/05	641 1 631 144 76078 ... 63978 000 000					Weak

**June 2020**

<b>1100z</b>	<b>18637kHz</b>	<b>1120z</b>	<b>17437kHz</b>	<b>1140z</b>	<b>15837kHz</b>	
02/06	648 1 631 144 76078 ... 63978 000 000					Weak
05/06	648 1 631 144 76078 ... 63978 000 000					Weak
09/06	648 1 131 81 64210 ... 70540 000 000			[1100z NRH, 1140z QSB2]		Weak
16/06	648 000					Weak
23/06	648 1 287 78 10383 ... 28284 000 000					Weak
26/06	648 1 287 78 10383 ... 28284 000 000					Weak
30/06	NRH					

**Thursday/Saturday**

**May 2020**

<b>1410z</b>	<b>15836kHz</b>	<b>1430z</b>	<b>14636kHz</b>	<b>1450z</b>	<b>13536kHz</b>	
02/05	157 000					Weak
07/05	157 000			[1410z DutchSDR]		Weak
09/05	157 000					Weak
14/05	157 1 569 64 04027 ... 19170 000 000			[1450z Fair]		Weak
16/05	157 1 569 64 04027 ... 39170 000 000					Weak
21/05	157 000					Weak
23/05	157 000					Weak
28/05	157 1 264 144 72288 ... 04331 000 000					Weak
30/05	157 1 264 144 72288 ... 04331 000 000					Weak

**June 2020**

1410z	13417kHz	1430z	14717kHz	1450z	15817kHz	
04/06	603 000					Weak
06/06	603 000					Weak
11/06	603 1 1143 99 08519 ... 86416 000 00				[1410z QRM]	Weak
18/06	603 000					Weak
20/06	603 000					Weak
25/06	603 1 9823 48 86095 ... 72087 000 000				[1410z QRM]	Weak
27/06	603 1 9823 48 86905 ... 72087 000 000				[1410z QRM Dutch SDR]	Weak

**Saturday**

**May 2020**

1300z	12176kHz	1320z	11576kHz	1340z	10276kHz	
02/05	152 000					1300z Weak, 1320z Fair
09/05	152 000					Weak
23/05	152 000					Fair
30/05	152 000					Weak

**June 2020**

06/06	152 1 166 55 32363 ... 54705 000 000					Strong
<p>152 152 152 1 166 55 166 55  32363 84759 06536 10868 31777 30316 54000 36002 45540 83244  18134 81634 03599 80280 86106 87160 74222 03412 24823 59616  67694 51661 56360 64721 40923 73218 21668 50816 10512 03787  89430 69015 96561 81339 60814 40580 01203 95748 75197 39834  44276 64068 24238 36122 69551 43585 86727 80528 21358 51953  21714 78126 96064 41096 54705 000 000                      <i>Courtesy Ary</i></p>						
20/06	152 1 166 55 32363 ... 54705 000 000					Very strong
27/06	152 000					1300z Weak 1320z Fair

**E07a**

PoSW's E07 a logs set the tone then onto others' logs:

**Wednesday Schedule, 2000 UTC Start:-**

- 6-May-20:- 2000 UTC, 12166 kHz, "172 172 172 000", very strong signal.  
2020 UTC, 10766 kHz, second sending, also very strong.
- 13-May-20:- 2020 UTC, 10766 kHz, "172 172 172 000", S9+, missed 2000z sending.
- 20-May-20:- 2000 UTC, 12166 kHz and 2020, 10766 kHz, both very strong, "172 172 172 000".
- 27-May-20:- 2000 UTC, 12166 kHz and 2020 UTC, 10766 kHz, as always both S9+ many dB old man, "172 172 172 000".
- 3-June-20:- 2000 UTC, 12166 kHz and 2020 UTC, 10766 kHz, "172 172 172 000".
- 17-June-20:- 2000 UTC, 12166 kHz and 2020 UTC, 10766 kHz, "172 172 172 000", the usual very strong signals.
- 24-June-20:- 2000 UTC, 12166 kHz, a "full message" for a change, "172 172 172 1 30692"  
DK/GC "4584 89" x 2, very strong signal.  
2020 UTC, 10766 kHz and 2040 UTC, 9266 kHz, repeats, both very strong.

**Fridav Schedule, 1510 UTC Start:-**

- 1-May-20:- 1510 UTC, 12182 kHz, "101 101 101 000", strong signal.  
1530 UTC, 11082 kHz, weaker.
- 8-May-20:- 1510 UTC, 12182 kHz, "101 101 101 000", S7 to S8.  
1530 UTC, 11082 kHz, weak signal.
- 15-May-20:- 1510 UTC, 12182 kHz and 1530 UTC, 11082 kHz, both strong, "101 101 101 000".
- 5-June-20:- 1510 UTC, 12182 kHz, "101 101 101 000", peaking S8.

1530 UTC, 11082 kHz, weaker.

12-June-20:- 1510 UTC, 12182 kHz and 1530 UTC, 11082 kHz, both strong signals, "101 101 101 000".

19-June-20:- 1510 UTC, 12182 kHz, "101 101 101 000", strong signal.

1530 UTC, 11082 kHz, also strong.

**Saturday Schedule, 0800 UTC Start:-**

2-May-20:- 0800 UTC, 12177 kHz, "148 148 148 000".

0820 UTC, 13477 kHz, weaker.

9-May-20:- 0800 UTC, 12177 kHz and 0820 UTC, 13477 kHz, both strong signals, "148 148 148 000".

16-May-20:- 0800 UTC, 12177 kHz, "148 148 148 000", "XJT" on frequency, not noted before.

0820 UTC, 13477 kHz, good signal.

6-June-20:- 0800 UTC, 13373 kHz, "338 338 338 000", strong signal.

0820 UTC, 14373 kHz, second sending, weaker.

13-June-20:- 0800 UTC, 13373 kHz and 0820 UTC, 14373 kHz, both around S7, "338 338 338 000".

20-June-20:- 0800 UTC, 13373 kHz, strong signal and 0820 UTC, 14373 kHz, weaker, "338 338 338 000".

**Wednesday**

**May 2020**

2000z	12166kHz	2020z	10766kHz	2040z	9266kHz	
06/05	172 000					Very strong
13/05	172 000					Very strong
20/05	172 000					Strong
27/05	172 000					Very strong

**June 2020**

03/06	172 000					Very strong
10/06	172 000					Very strong
17/06	172 000					Very strong
24/06	172 1 30692 4584 89 47785 ... 44274 000 000					Very strong

**Thursday**

**May 2020**

0430z	7933kHz	0450z	9133kHz	0510z	10233kHz	
07/05	912 000					Very strong
14/05	912 000					Very strong
21/05	912 000					Very strong
28/05	912 000					Very strong

**June 2020**

04/06	912 000					Very strong
11/06	912 000					Very strong
18/06	912 000				[0450z CWQRM2*]	Weak

\*  
 DE 9T C2 LRE E  
 DE 9T C2 9T C2  
 ZPB ZQX ZHH ZZ ZT  
 ZHW ZSU1 ZYT4 ZWU ZW  
 K

25/06	912 1 30692 4584 89 47785 ... 44274 000 000					Very strong
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**Friday**

**May 2020**

1510z	12182kHz	1530z	11082kHz	1550z	10182kHz	
01/05	101 000					Weak
08/05	101 000					Weak
15/05	101 000					1530z Fair, 1510z Strong
22/05	101 000					Strong
29/05	101 000					Weak

**June 2020**

05/06	101 000					Fair
12/06	101 000					Weak
19/06	101 000					Weak
26/06	101 000					1510z Fair, 1530z Weak

**Saturday**

**May 2020**

0800z	12177kHz	0820z	13477kHz	0840z	14877kHz	
02/05	148 000				[0800z QRM]	Weak
09/05	148 000					Fair
16/05	148 000				[0800z LocalQRM5]	Weak
23/05	148 000					0800z Weak, 0820z Fair
30/05	148 000					Strong

**June 2020**

0800z	13373kHz	0820z	14373kHz	0840z	14873kHz	
06/06	338 000					Fair
13/06	338 000					Fair
20/06	338 000					Strong
27/06	338 000					Fair

# E11&E11a log May/June

**E11 & E11a log May/June:**

**Crazy world of 121**

4146kHz	1810z	30/06 [121/25 25456 32587 41021 56698 52102 14520 02587 96630 23568 42158 63210 25412 55635 22569 87452 12023 65478 96520 21354 65877 45920 12658 74563 20145]	Daniel	TUE
4783kHz	1705z	02/05 [394/00] Out 1708z S3	Malc	SAT
	1705z	06/05 [399/00] Out 1708z S3	Malc	WED
	1705z	09/05 [393/00] Out 1708z S2	Malc	SAT
	1705z	13/05 [392/00] Out 1708z S3	Malc	WED
	1705z	16/05 [394/00] Out 1708z S3	Malc	SAT
	1705z	20/05 [392/00] Out 1708z S3	Malc	WED
	1705z	23/05 [395/00] Out 1708z S3+QRM	Malc	SAT
	1705z	27/05 [396/33 91646.....44710] Out 1715z S3	Malc	WED
	1705z	30/05 [396/33 91646.....etc] Repeat of Wednesday	Malc	SAT
	1705z	06/06 [393/00]	Gary H, Malc	SAT



	1705z	10/06 [396/00] Out 1708z S2+QRM		Malc	WED
	1705z	17/06 [394/00] Out 1708z S4		Malc	WED
	1705z	20/06 [391/00] Out 1708z S3		Malc	SAT
	1705z	24/06 [395/35 40466.....77016] Out 1715z S3+QRM		Malc	WED
	1705z	27/06 [395/35 40466.....etc] Repeat of Wednesday		Malc	SAT
4909kHz	0820z	01/05 [430/00] Out 0823z S2 (Dutch SDR)		Malc, RNGB	FRI
	0820z	07/05 [439/00] Out 0823z S3		Malc	THU
	0820z	08/05 [430/00] Out 0823z S2		Malc	FRI
	0820z	15/05 [430/34 12650.....28352] Out 0823z S2 (Dutch SDR)		Malc	FRI
	0820z	21/05 [436/00] Out 0823z S2		Malc, RNGB	THU
	0820z	22/05 [434/00] Out 0823z S2 (Dutch SDR)		Malc, RNGB	FRI
	0820z	29/05 [438/00] Out 0823z S2 (Dutch SDR)		Malc	FRI
	0820z	04/06 [439/00] Out 0823z S2 (Dutch SDR)		Malc, RNGB	THU
	0820z	05/06 [436/00] Out 0823z S3 (Dutch SDR)		Malc	FRI
	0820z	11/06 [430/00] Out 0823z S2		Malc, RNGB	THU
	0820z	12/06 [431/00] Out 0823z S2		Malc	FRI
	0820z	18/06 [436/37 88580 71364 63537 28502 81817 95677 48391.....55165 89385] Out 0831z		RNGB, Malc	THU
	0820z	19/06 [436/37 88580.....etc] Repeat of Thursday		Malc	FRI
	0820z	26/06 [439/00] Out 0823z S2 (Dutch SDR)		Malc	FRI
5082kHz	1930z	02/05 [369/00] Out 1933z S5		Malc	SAT
	1930z	03/05 [368/00] Out 1933z S3		Malc	SUN
	1930z	09/05 [363/32 99149.....32458] Out 1940z S3		Malc	SAT
	1930z	10/05 [363/32 99149.....etc] Repeat of Saturday		Malc	SUN
	1930z	16/05 [364/00] Out 1933z S4		Malc	SAT
	1930z	17/05 [363/00] Out 1933z S6		Malc	SUN
	1930z	23/05 [363/00] Out 1933z S5		Malc	SAT
	1930z	24/05 [363/00] Out 1933z S6		Malc	SUN
	1930z	30/05 [368/00] Out 1933z S5		Malc	SAT
	1930z	31/05 [366/00] Out 1933z S4		Malc	SUN
	1930z	06/06 [365/00] Out 1933z S6		Malc	SAT
	1930z	07/06 [369/00] Out 1933z S5		Malc	SUN
	1930z	13/06 [366/00]		RNGB	SAT
	1930z	14/06 [367/00] Out 1933z S6		Malc	SUN
	1930z	20/06 [368/00] Out 1933z S2+QRM		Malc	SAT
	1930z	21/06 [369/00] Out 1933z S4		Malc	SUN
	1930z	28/06 [363/36 71108.....91325] Out 1940z S3		Malc	SUN
5371kHz	1605z	03/05 [230/00] Out 1608z S3		Malc	SUN
	1605z	05/05 [237/00] Out 1608z S2		Malc, RNGB	TUE
	1605z	10/05 [230/00] Out 1608z S2		Malc	SUN
	1605z	12/05 [238/00] Out 1608z S2		Malc	TUE
	1605z	17/05 [231/00] Out 1608z S5		Malc	SUN
	1605z	19/05 [232/00] Out 1608z S2		Malc	TUE
	1605z	24/05 [231/00] Out 1608z S3 Out 1615z S2		Malc	SUN
	1605z	26/05 [230/33 29520 56894 67918 69050 58962 20037 61169 06860.....89447 67194]		RNGB	TUE
	1605z	02/06 [232/00] Out 1608z S2		Malc	TUE
	1605z	09/06 [238/33 05519.....38774] Out 1615z S3		Malc	TUE
	1605z	14/06 [238/33 05519.....etc] Repeat of Tuesday		Malc	SUN
	1605z	16/06 [238/00] Out 1608z S2		Malc	TUE
	1605z	21/06 [235/00] Out 1608z S4		Malc	SUN
	1605z	23/06 [238/00] Out 1608z S2		Malc	TUE
	1605z	28/06 [238/00] Out 1608z S3 (Dutch SDR)		Malc	SUN
	1605z	30/06 [233/00] Out 1608z S2		Malc	TUE
5409kHz	1530z	01/05 [521/00] Out 1533z S2		Malc	FRI
	1530z	04/05 [527/00] Out 1533z S2		Malc	MON
	1530z	08/05 [521/00] Out 1533z S2		Malc	FRI
	1530z	15/05 [520/00]		dhmz, Malc	FRI
	1530z	18/05 [527/35 72374.....43164] Out 1540z S4 (Dutch SDR)		Malc	MON
	1530z	25/05 [527/00] Out 1533z S3 (Dutch SDR)		Malc	MON
	1530z	29/05 [527/00] Out 1533z S3 (Dutch SDR)		Malc	FRI
	1530z	01/06 [520/00] Out 1533z S2		Malc	MON
	1530z	05/06 [525/00] Out 1533z S2		Malc	FRI
	1530z	08/06 [524/00] Out 1533z S2		Malc	MON
	1530z	12/06 [524/00] Out 1533z S2		Malc	FRI
	1530z	15/06 [522/33 16189.....50773] Out 1540z S3		Malc	MON
	1530z	26/06 [521/00] Out 1533z S2		Malc	FRI
	1530z	29/06 [524/00] Out 1533z S2		Malc	MON
5737kHz	0805z	02/05 [319/00] Out 0808z S3 + QRM		Malc	SAT
	0805z	03/05 [311/00] Out 0808z S2		Malc, RNGB	SUN

	0805z	09/05 [315/00] Out 0808z S2		Malc	SAT
	0805z	10/05 [313/00] Out 0808z S2		Malc	SUN
	0805z	16/05 [316/37 80274..... 00966] Out 0816z S2 (Dutch SDR)		Malc	SAT
	0805z	17/05 [316/37 80274.....etc] Repeat of Saturday		Malc	SUN
	0805z	23/05 [316/00] Out 0808z S2		Malc	SAT
	0805z	24/05 [314/00] Out 0808z S2		Malc	SUN
	0805z	30/05 [311/00] Out 0808z S3		Malc	SAT
	0805z	31/05 [311/00] Out 0808z S2		Malc	SUN
	0805z	06/06 [319/00] Out 0808z S2		Malc, RNGB	SAT
	0805z	07/06 [365/00] Out 0808z S2		Malc	SUN
	0805z	20/06 [313/00] Out 0808z S2		Malc	SAT
	0805z	21/06 [313/00] Out 0808z S2		Malc	SUN
	0805z	27/06 [311/37 77786.....79492] Out 0816z S2 (Dutch SDR)		Malc	SAT
	0805z	28/06 [311/37 77786.....etc] Repeat of Saturday		Malc	SUN
6304kHz	1205z	05/05 [465/00] Out 1208z S2		Malc	TUE
	1205z	06/05 [462/00] Out 1208z S2 (Dutch SDR)		Malc	WED
	1205z	12/05 [461/00] Out 1208z S2		Malc	TUE
	1205z	13/05 [462/00] Out 1208z S2		Malc	WED
	1205z	19/05 [460/00] Out 1208z S2 (Dutch SDR)		Malc	TUE
	1205z	20/05 [460/00] Out 1208z S3 (Dutch SDR)		Malc	WED
	1205z	27/05 [466/31 20731.....90314] Out 1214z S2		Malc	WED
	1205z	02/06 [469/00] Out 1208z S2		Malc	TUE
	1205z	03/06 [469/00] Out 1208z S2		Malc	WED
	1205z	09/06 [463/00] Out 1208z S3 (Dutch SDR)		Malc	TUE
	1205z	10/06 [460/00] Out 1208z S2		Malc	WED
	1205z	17/06 [462/39 31602 96779 03756 64243 37761 21559 48826.....12752 23510]		RNGB, Malc	WED
	1205z	23/06 [462/00] Out 1208z S3 (Dutch SDR)		Malc	TUE
	1205z	24/06 [461/00] Out 1208z S2 (Dutch SDR)		Malc	WED
	1205z	30/06 [466/00] Out 1208z S2 (Dutch SDR)		Malc	TUE
6480kHz	0710z	02/05 [498/00] Out 0713z S2		Malc	SAT
	0710z	03/05 [495/00] Out 0713z S3		Malc, RNGB	SUN
	0710z	09/05 [498/00] Out 0703z S2		Malc	SAT
	0710z	10/05 [498/00] Out 0713z S2		Malc	SUN
	0700z	16/05 [490/32 78192.....12526] Out 0919z S3 (Dutch SDR)		Malc	SAT
	0710z	17/05 [490/32 78192.....etc] Repeat of Saturday		Malc	SUN
	0710z	23/05 [496/00] Out 0713z S2		Malc	SAT
	0710z	24/05 [496/00] Out 0713z S2		Malc	SUN
	0710z	31/05 [495/00] Out 0713z S2		Malc, RNGB	SUN
	0710z	06/06 [490/00] Out 0713z S2		Malc	SAT
	0710z	07/06 [495/00] Out 0713z S2		Malc	SUN
	0710z	20/06 [496/00] Out 0713z S2		Malc	SAT
	0710z	21/06 [496/00] Out 0713z S2		Malc	SUN
	0710z	28/06 [497/00] Out 0713z S2		Malc	SUN
6849kHz	0435z	19/06 [354/33 24546.....etc]		hfd	FRI
6923kHz	0930z	07/05 [277/00] Out 0933z S2		Malc, RNGB	THU
	0930z	13/05 [270/00] Out 0933z S2		Malc	WED
	0930z	14/05 [271/00] Out 0933z S3 (Dutch SDR)		Malc	THU
	0930z	20/05 [271/00] Out 0933z S3		Malc, Thomas	WED
	0930z	21/05 [276/00] Out 0933z S2		Malc, RNGB	THU
	0930z	27/05 [277/39 33687.....58237] at 0937z TX Failed		Malc, RNGB	WED
	0930z	28/05 [277/39 33687.....etc] Repeat of Wednesday		RNGB	THU
	0930z	04/06 [277/00] Out 0933z S2		Malc, RNGB	THU
	0930z	03/06 [279/00] Out 0933z S2		Malc	WED
	0930z	10/06 [275/36 92074.....62074] Out 0940z S5 (Dutch SDR)		Malc	WED
	0930z	11/06 [275/36 92074.....etc] Repeat of Wednesday		Malc	THU
	0930z	17/06 [270/00] Out 0933z S2		Malc	WED
	0930z	18/06 [275/00] Out 0933z S2		Malc, RNGB	THU
	0930z	24/06 [271/00] Out 0933z S2		Malc	WED
	0930z	25/06 [271/00] Out 0933z S2 (Dutch SDR)		Malc	THU
7449kHz	0900z	04/05 [533/00] Out 0903z S2		Malc, RNGB	MON
	0900z	11/05 [538/00] Out 0903z S2		Malc	MON
	0900z	18/05 [537/00] Out 0903z S2		Malc	MON
	0900z	20/05 [530/00] Out 0903z S2		Malc	WED
	0900z	27/05 [533/33 96423.....87019] Out 0910z S3 (Dutch SDR)		Malc	WED
	0900z	25/05 [533/33 96423.....etc] Repeat of Wednesday		Malc	MON
	0900z	01/06 [534/00] Out 0903z S3 (Dutch SDR)		Malc	MON
	0900z	03/06 [536/00] Out 0903z S2		Malc	WED

	0900z	08/06 [534/31 71484.....41011] Out 0909z S2	Malc	MON
	0900z	10/06 [534/31 71484.....etc] Repeat of Monday	Malc	WED
	0900z	15/06 [537/00] Out 0933z S2	Malc	MON
	0900z	17/06 [538/00] Out 0903z S2	Malc, RNGB	WED
	0900z	22/06 [530/00] Out 0903z S2	Malc	MON
	0900z	24/06 [535/00] Out 0903z S3 (Dutch SDR)	Malc	WED
	0900z	29/06 [532/00]	RNGB	MON
7469kHz	0450z	22/06 [410/00]	hfd	MON
7600kHz	1900z	04/05 [646/00] Out 1903z S7	Malc	MON
	1900z	07/05 [641/00] Out 1903z S5	Malc	THU
	1900z	14/05 [643/00] Out 1903z S6	Malc	THU
	1900z	18/05 [643/00] Out 1903z S3	Malc	MON
	1900z	21/05 [640/00] Out 1903z S4	Malc	THU
	1900z	25/05 [647/38 48054.....15453] Out 1911z S4	Malc	MON
	1900z	28/05 [647/38 48054 55894 74670 18410 78902 66102 61666 03303.....43603 15453] S8	RNGB, Malc	THU
	1900z	01/06 [648/00] Out 1903z S3	Malc, RNGB	MON
	1900z	04/06 [643/00] Out 1903z S5	Malc	THU
	1900z	08/06 [640/00] Out 1903z S4	Malc	MON
	1900z	11/06 [640/00] Out 1903z S3	Malc, RNGB	THU
	1900z	15/06 [646/32 00723.....39713] Out 1910z S3	Malc	MON
	1900z	18/06 [646/32 00723.....etc] S4 Repeat of Monday	Malc	THU
	1900z	22/06 [643/00] Out 1903z S3	Malc	MON
	1900z	25/06 [648/00] Out 1903z S2	Malc	THU
	1900z	29/06 [640/00] Out 1903z S3	Malc	MON
7863kHz	1625z	03/05 [977/00] Out 1628z S2	Malc	SUN
	1625z	06/05 [978/00] Out 1628z S3	Malc	WED
	1625z	10/05 [970/00] Out 1728z S3	Malc	SUN
	1625z	13/05 [976/00] Out 1628z S2	Malc	WED
	1625z	17/05 [977/00] Out 1628z S2	Malc	SUN
	1625z	20/05 [977/00] Out 1628z S2	Malc	WED
	1625z	24/05 [977/00] Out 1628z S3	Malc	SUN
	1625z	27/05 [974/37 26850.....74203] Out 1634z S5	Malc	WED
	1625z	31/05 [974/37 26850.....etc] Repeat of Wednesday	Malc	SUN
	1625z	03/06 [972/00] Out 1628z S3	Malc, RNGB	WED
	1625z	07/06 [977/00] Out 1628z S3	Malc	SUN
	1625z	10/06 [970/00] Out 1628z S3	Malc	WED
	1625z	14/06 [977/00] Out 1628z S2	Malc	SUN
	1625z	17/06 [975/31 76007.....40415] Out 1635z S7	Malc	WED
	1625z	21/06 [975/31 76007.....etc] Repeat of Wednesday	Malc	SUN
	1625z	24/06 [975/00] Out 1628z S2	Malc	WED
	1625z	28/06 [975/00] Out 1628z S3	Malc	SUN
8088kHz	1730z	07/05 [411/31 11244.....96033] Out 1739z S4	Malc	THU
	1730z	14/05 [416/00] Out 1733z S2	Malc	THU
	1730z	21/05 [414/00] Out 1733z S2	Malc	THU
	1730z	28/05 [411/00] Out 1733z S3	Malc	THU
	1730z	04/06 [416/00] Out 1733z S5	Malc	THU
	1730z	11/06 [410/00] Out 1733z S2+QRM	Malc	THU
	1730z	18/06 [414/40 09643.....12530] Out 1741z S3+QRM	Malc	THU
	1730z	25/06 [425/00] Out 1733z S2+QRM	Malc	THU
8180kHz	1000z	01/05 [305/00] Out 1003z S2	Malc, RNGB	FRI
	1000z	05/05 [300/00] Out 1003z S2	Malc, RNGB	TUE
	1000z	08/05 [309/00] Out 1003z S2	Malc	FRI
	1000z	12/05 [308/00] Out 1003z S2	Malc	TUE
	1000z	15/05 [304/00] Out 1003z S2	Malc	FRI
	1000z	19/05 [306/25 91785 98567 23304 68829 82746 76428 39761 82251.....80909 55194]	RNGB	TUE
	1000z	22/05 [306/25 91785.....55194] Out 1008z S4	Malc	FRI
	1000z	29/05 [304/00] Out 1003z S2	Malc	FRI
	1000z	02/06 [307/24 61104.....75844] Out 1007z S2	Malc	TUE
	1000z	05/06 [307/24 61104.....etc] Repeat of Tuesday	Malc	FRI
	1000z	09/06 [302/00] Out 1003z S3	Malc	TUE
	1000z	12/06 [305/00] Out 1003z S2	Malc	FRI
	1000z	16/06 [306/00]	RNGB	TUE
	1000z	23/06 [305/00] Out 1003z S3	Malc	TUE
	1000z	26/06 [305/00] Out 1003z S2	Malc	FRI
	1000z	30/06 [308/00] Out 1003z S2	Malc	TUE
8545kHz	1045z	04/05 [696/33 44799.....04772] Out 1055z S2	Malc	MON

	1045z	06/05 [696/33 44799 96726 04414 30992 22187 47657 59452 55950.....31427 04772]	RNGB, Malc	WED
	1045z	13/05 [690/00] Out 1048z S3	Malc	WED
	1045z	18/05 [696/00] Out 1048z S2	Malc	MON
	1045z	20/05 [691/00] Out 1048z S2	Malc	WED
	1045z	25/05 [696/00] Out 1048z S2	Malc	MON
	1045z	27/05 [692/00] Out 1048z S2	Malc	WED
	1045z	01/06 [696/00] Out 1048z S2	Malc	MON
	1045z	03/06 [694/00] Out 1048z S2	Malc	WED
	1045z	08/06 [690/00] Out 1048z S3	Malc	MON
	1045z	10/06 [697/00] Out 1048z S3	Malc	WED
	1045z	15/06 [698/00] Out 1048z S2	Malc	MON
	1045z	17/06 [698/00] Out 1048z S2	Malc	WED
	1045z	24/06 [692/30 27370.....57764] Out 1054z S2	Malc	WED
	1045z	29/06 [694/00] Out 1048z S3	Malc	MON
8680kHz	0700z	01/05 [574/00] Out 0703z S2	Malc	FRI
	0700z	05/05 [575/00] Out 0703z S2	Malc, RNGB	TUE
	0700z	08/05 [576/00] Out 0703z S3	Malc	FRI
	0700z	12/05 [570/00] Out 0703z S2	Malc	TUE
	0700z	15/05 [576/00] Out 0703z S2	Malc	FRI
	0700z	19/05 [570/33 88110 74186 25853 76870 65898 81751 59653.....71974 45949] Out 0710z S5	RNGB, Malc	TUE
	0700z	22/05 [570/33 88110.....etc] Repeat of Tuesday	Malc	FRI
	0700z	29/05 [577/00] Out 0703z S2	Malc	FRI
	0700z	02/06 [573/38 29292.....80328] Out 0711z S2	Malc	TUE
	0700z	05/06 [573/38 29292.....etc] Repeat of Tuesday	Malc	FRI
	0700z	12/06 [571/00] Out 0703z	Malc	FRI
	0700z	16/06 [579/00] Out 0703z S3	Malc	TUE
	0700z	19/06 [571/00] Out 0703z S2	Malc, RNGB	FRI
	0700z	23/06 [571/00] Out 0703z S2	Malc	TUE
	0700z	26/06 [571/00] Out 0703z S2	Malc	FRI
	0700z	30/06 [571/00] Out 0703z S3	Malc	TUE
9610kHz	1910z	01/05 [612/00] Out 1913z S7 + QRM	Malc	FRI
	0745z	04/05 [264/00] Out 0748z S4	Malc, RNGB	MON
	1910z	08/05 [611/38 50093.....37181] Out 1921z S3 + S9 QRM	Malc	FRI
	1910z	10/05 [611/38 50093.....etc] Repeat of Friday	Malc	SUN
	0745z	11/05 [264/31 76314.....03626] Out 0754z S4	Malc	MON
	1910z	15/05 [618/00] Out 1913z S3 + QRM	Malc	FRI
	1910z	17/05 [610/00] Out 1913z S2 + S9 QRM	Malc	SUN
	0745z	18/05 [266/00] Out 0748z S5	Malc	MON
	1910z	22/05 [612/00] Out 1903z S9+ QRM	Malc	FRI
	1910z	24/05 [618/00] Out 1913z S5+ QRM	Malc	SUN
	0745z	25/05 [262/00] Out 0748z S2	Malc, RNGB	MON
	1910z	29/05 [610/00] Out 1913z S3 + QRM	Malc	FRI
	1910z	31/05 [611/00] Out 1913z S5 + QRM	Malc	SUN
	0745z	01/06 [267/00] Out 0748z S4	Malc, RNGB	MON
	1900z	05/06 [612/33 27605?.....etc] then buried in B/C TX]OUT 1907z S4+S8 QRM	Malc	FRI
	1910z	07/06 [612/33 27604 to 11425] Out 1920z S5+QRM	Malc	SUN
	0745z	08/06 [266/00] Out 0748z S3	Malc	MON
	1910z	12/06 [612/00] Out 1913z S4+QRM	Malc	FRI
	1910z	14/06 [610/00] Out 1913z S5+QRM	Malc	SUN
	0745z	15/06 [261/40 13337 72416 82886 97956 31519 11810 12865.....20919 69950] Out 0756z S5	RNGB, Malc	MON
	1910z	19/06 [614/00] Out 1913z S3+QRM	Malc	FRI
	1910z	21/06 [618/00] Out 1913z S4+QRM	Malc	SUN
	0745z	22/06 [260/00] Out 0748z S3	Malc	MON
	1910z	26/06 [614/00] Out 1913z S3+QRM	Malc	FRI
	1910z	28/06 [612/00] Out 1913z S3+QRM	Malc	SUN
	0745z	29/06 [268/00] Out 0748z S3	Malc	MON
10356kHz	1530z	14/05 [264/31 76314.....03626] Repeat of Monday's 9610kHz	Malc	THU
	1530z	21/05 [269/00] Out 1533z S6	Malc, RNGB	THU
	1530z	04/06 [267/00] Out 1533z S3	Malc	THU
	1530z	11/06 [269/00] Out 1533z S4	Malc	THU
	1530z	18/06 [261/40 13337.....69950] Out 1541z S4	Malc	THU
	1530z	25/06 [260/00] Out 1533z S4	Malc	THU
10429kHz	0715z	01/05 [630/00] Out 0718z S2	Malc	FRI
	0715z	05/05 [634/00] Out 0718z S3	Malc, RNGB	TUE
	0715z	08/05 [633/00] Out 0718z S5	Malc	FRI
	0715z	12/05 [631/00] Out 0718z S2	Malc	TUE
	0715z	15/05 [636/00] Out 0718z S2	Malc	FRI
	0715z	19/05 [630/35 88803 61449 93031 43344 81590 89959 44991 32767.....84139 93103] Out 0725z	RNGB, Malc	TUE

0715z	22/05 [630/35 88803.....etc]	Repeat of Tuesday	Malc	FRI	
0715z	29/05 [633/00]	Out 0718z S2	Malc	FRI	
0715z	02/06 [630/00]	Out 0718z S2	Malc, RNGB	TUE	
0715z	05/06 [633/00]	Out 0718z S2	Malc	FRI	
0715z	09/06 [635/38 76673.....77567]	Out 0726z S4	Malc	TUE	
0715z	12/06 [635/38 76673.....etc]	Repeat of Tuesday	Malc	FRI	
0715z	16/06 [633/00]	Out 0718z S2	Malc	TUE	
0715z	19/06 [636/00]	Out 0718z S2	Malc	FRI	
0715z	23/06 [636/00]	Out 0718z S2	Malc	TUE	
0715z	26/06 [634/00]	Out 0718z S2	Malc	FRI	
0715z	30/06 [635/00]	Out 0718z S2	Malc	TUE	
12153kHz	0845z	05/05 [152/00]	Out 0848z S3	Malc	TUE
	0845z	07/05 [155/00]	Out 0848z S2	Malc	THU
	0845z	12/05 [151/30 42859 36579 15087 61706 88791 70311 81374.....50661 75919]	Out 0854z S2	Malc, RNGB	TUE
	0845z	14/05 [151/30 42859.....etc]	Repeat of Tuesday	Malc	THU
	0845z	19/05 [306/25 91785.....55194]	Out 1008z S3	Malc	TUE
	0845z	21/05 [159/00]	Out 0848z S3	Malc	THU
	0845z	28/05 [152/00]	Out 0848z S4	Malc	THU
	0845z	02/06 [152/00]	Out 0848z S2	Malc	TUE
	0845z	04/06 [150/00]	Out 0848z S3	Malc	THU
	0845z	09/06 [154/00]	Out 0848z S4	Malc	TUE
	0845z	11/06 [155/00]	Out 0848z S3	Malc	THU
	0845z	16/06 [152/00]	Out 0848z S3	Malc	TUE
	0845z	18/06 [154/00]	Out 0848z S3	Malc	THU
	0845z	23/06 [157/26 96196.....23730]	Out 0853z S2	Malc	TUE
	0845z	30/06 [159/00]	Out 0848z S3	Malc	TUE
12202kHz	0830z	01/05 [188/00]	Out 0833z S3	Malc	FRI
	0830z	04/05 [181/39 49681 03046 59852 90984 65361 28727 13198.....2021848478]	Out 0841z S3	RNGB, Malc	MON
	0830z	08/05 [181/39 49681.....etc]	Repeat of Monday	Malc	FRI
	0830z	11/05 [182/00]	Out 0833z S2	Malc	MON
	0830z	15/05 [182/00]	Out 0833z S2	Malc	FRI
	0830z	18/05 [180/00]	Out 0833z S5	Malc	MON
	0830z	22/05 [181/00]	Out 0833z S4	Malc, RNGB	FRI
	0830z	25/05 [180/00]	Out 0833z S3	Malc	MON
	0830z	29/05 [184/00]	Out 0833z S2	Malc	FRI
	0830z	01/06 [181/00]	Out 0833z S3	Malc, RNGB	MON
	0830z	05/06 [182/00]	Out 0833z S4	Malc, RNGB	FRI
	0830z	08/06 [185/27 20751.....14013]	Out 0839z S2	Malc	MON
	0830z	12/06 [185/27 20751 00177 62224 78843 78847 25049 69449.....14679 14013]	Repeat of Monday	Malc, RNGB	FRI
	0830z	15/06 [184/00]	Out 0833z S3	Malc	MON
	0830z	19/06 [180/00]	Out 0833z S2	Malc	FRI
	0830z	26/06 [181/00]	Out 0833z S3	Malc	FRI
	0830z	29/06 [185/00]		RNGB	MON
12229kHz	1650z	01/05 [921/00]	Out 1653z S4	Malc	FRI
	1650z	03/05 [926/00]	Out 1653z S4	Malc	SUN
	1650z	08/05 [929/36 77681.....16133]	Out 1653z S2	Malc	FRI
	1650z	10/05 [929/36 77681.....etc]	Repeat of Friday	Malc	SUN
	1650z	15/05 [920/00]	Out 1653z S3	Malc	FRI
	1650z	17/05 [927/00]	Out 1753z S3	Malc	SUN
	1650z	22/05 [924/00]	Out 1653z S4	Malc	FRI
	1650z	24/05 [927/00]	Out 1653z S2	Malc	SUN
	1650z	29/05 [921/00]	Out 1653z S5	Malc	FRI
	1650z	31/05 [929/00]	Out 1653z S4	Malc	SUN
	1650z	05/06 [929/00]	Out 1653z S4	Malc	FRI
	1650z	07/06 [920/00]	Out 1653z S3	Malc	SUN
	1650z	12/06 [921/00]	Out 1653z S3	Malc	FRI
	1650z	14/06 [929/00]	Out 1653z S3	Malc	SUN
	1650z	19/06 [920/00]	Out 1653z S3	Malc	FRI
	1650z	28/06 [929/36 44790.....15901]	Out 1700z S6	Malc	SUN
12984kHz	1345z	02/05 [911/00]	Out 1348z S2	Malc	SAT
	1345z	09/05 [914/00]	Out 1348z S3	Malc	SAT
	1345z	12/05 [914/00]	Out 1348z S2	Malc	TUE
	1345z	16/05 [912/00]	Out 1348z S3	Malc	SAT
	1345z	19/05 [918/35 98545.....76701]	Out 1355z S3	(Dutch SDR) Malc	TUE
	1345z	23/05 [918/35 98545.....etc]	Repeat of Tuesday	Malc	SAT
	1345z	30/05 [918/00]	Out 1348z S2	Malc	SAT

1345z	02/06 [917/00] Out 1348z S3		Malc	TUE
1345z	06/06 [912/00] Out 1348z S2		Malc	SAT
1345z	09/06 [914/00] Out 1348z S3		Malc	TUE
1345z	16/06 [912/00] Out 1348z S2		Malc	TUE
1345z	20/06 [919/00] Out 1348z S3		Malc	SAT
1345z	23/06 [915/34 49260.....28035] Out 1355z S2		Malc	TUE
1345z	27/06 [915/34 49260.....etc] Repeat of Tuesday		Malc	SAT
1345z	30/06 [917/00] Out 1348z S3		Malc	TUE
13424kHz	0645z	05/05 [518/00] Out 0648z S2	Malc, RNGB	TUE
	0645z	07/05 [511/00] Out 0748z S2	Malc, RNGB	THU
	0645z	12/05 [510/00] Out 0648z S3	Malc	TUE
	0645z	14/05 [514/00] Out 0648z S4	Malc	THU
	0645z	19/05 [514/32 11856 11000 56501 78324 59131 09477 85230 10800.....91030 22364] Out 0655z	RNGB, Malc	TUE
	0645z	21/05 [514/32 11856.....etc] Repeat of Tuesday	Malc	THU
	0645z	26/05 [517/00]	RNGB	TUE
	0645z	28/05 [518/00] Out 0648z S3	Malc, RNGB	THU
	0645z	02/06 [519/00] Out 0648z S2	RNGB, Malc	TUE
	0645z	04/06 [512/00] Out 0648z S3	Malc, RNGB	THU
	0645z	09/06 [573/00] Out 0648z S3	Malc	TUE
	0645z	11/06 [515/00] Out 0648z S3	Malc, RNGB	THU
	0645z	16/06 [515/00] Out 0648z S2	Malc	TUE
	0645z	18/06 [519/00]	RNGB	THU
	0645z	23/06 [510/31 03937.....22520] Out 0654z S3	Malc	TUE
	0645z	25/06 [510/31 03937.....etc] Repeat of Tuesday	Malc	THU
	0645z	30/06 [514/00] Out 0648z S2	Malc	TUE
14410kHz	1745z	04/05 [247/31 62657.....36948] Out 1754z S3 (Dutch SDR)	Malc	MON
	1745z	10/05 [247/31 62657.....etc] Repeat of Monday	Malc	SUN
	1745z	11/05 [247/00] Out 1748z S2 (Dutch SDR)	Malc	MON
	1745z	17/05 [246/00] Out 1748z S3	Malc	SUN
	1745z	18/05 [247/00] Out 1748z S2	Malc	MON
	1745z	24/05 [249/00] Out 1748z S3	Malc	SUN
	1745z	25/05 [240/00] Out 1748z S4	Malc	MON
	1745z	31/05 [247/00] Out 1748z S4	Malc	SUN
	1745z	01/06 [240/00] Out 1748z S6	Malc	MON
	1745z	07/06 [248/00] Out 1748z S2	Malc	SUN
	1745z	08/06 [247/33 34603.....58168] Out 1755z S4	Malc	MON
	1745z	14/06 [247/33 34063.....etc] Repeat of Monday	Malc	SUN
	1745z	15/06 [242/00] Out 1748z S4	Malc	MON
	1745z	21/06 [244/00] Out 1748z S3	Malc	SUN
	1745z	22/06 [240/00] Out 1748z S3	Malc	MON
	1745z	28/06 [247/00] Out 1748z S5	Malc	SUN
	1745z	29/06 [247/00] Out 1748z S2	Malc	MON
14575kHz	1700z	07/05 [330/00] Out 1703z S2	Malc	THU
	1700z	12/05 [332/00] Out 1703z S3 (Dutch SDR)	Malc	TUE
	1700z	19/05 [330/32 82401.....16795] Out 1710z S5 (Dutch SDR)	Malc	TUE
	1700z	21/05 [330/32 82401.....etc] Repeat of Tuesday	Malc	THU
	1700z	28/05 [332/00] Out 1703z S2 (Dutch SDR)	Malc	THU
	1645z	02/06 [335/34 36033 42935 71730 02750 97315 78374 51514.....4217 59091] Earlier time	Ary	TUE
	1645z	04/06 [335/34 36033.....etc] Repeat of Tuesday	RNGB, Malc	THU
	1645z	09/06 [331/00] Out 1648z S2	Malc	TUE
	1645z	11/06 [338/00] Out 1648z S2 (Dutch SDR)	Malc	THU
	1645z	16/06 [337/00] Out 1648z S2	Malc	TUE
	1645z	18/06 [337/00] Out 1648z S4	Malc	THU
	1645z	23/06 [331/00] Out 1648z S3	Malc	TUE
	1645z	25/06 [335/00] Out 1648z S2	Malc	THU
	1645z	30/06 [338/00] Out 1648z S3	Malc	TUE
14940kHz	0745z	07/05 [222/39 55786 98193 07408 22215 31536 52420 98794.....38670 11739] Out 0756z S2	RNGB, Malc	THU
	0745z	12/05 [222/39 55786.....etc] Repeat of Thursday	Malc	TUE
	0745z	19/05 [224/39 90983.....86329 92702] Out 0756z S8	Malc	TUE
	0745z	21/05 [224/39 90983.....etc] Repeat of Tuesday	Malc	THU
	0745z	28/05 [225/00] Out 0748z S2	Malc, RNGB	THU
	0745z	02/06 [220/00] Out 0748z S3	Malc, RNGB	TUE
	0745z	04/06 [220/00] Out 0748z S5	Malc, RNGB	THU
	0745z	09/06 [228/00] Out 0748z S3	Malc	TUE
	0745z	11/06 [225/00] Out 0748z S2	Malc	THU
	0745z	16/06 [223/00] Out 0748z S4	Malc	TUE
	0745z	18/06 [224/00] Out 0748z S3	Malc, RNGB	THU
	0745z	23/06 [224/31 99816.....73068] Out 0754z S3 QSB2	Malc	TUE

0745z	25/06 [224/31 99816.....etc] Repeat of Tuesday	Malc	THU
0745z	30/06 [229/00] Weak	RNGB	TUE
15720kHz 0745z	01/05 [346/00] Out 0748z S2	Malc	FRI
0745z	06/05 [344/00] Out 0748z S2	Malc	WED
0745z	08/05 [344/00] Out 0748z S2	Malc	FRI
0745z	13/05 [344/37 02722.....35748] Out 0756z S3	Malc	WED
0745z	15/05 [344/37 02722.....etc] Repeat of Wednesday	Malc	FRI
0745z	20/05 [349/00] Out 0748z S4	Malc	WED
0745z	22/05 [346/00] Out 0748z S2	Malc	FRI
0745z	27/05 [340/00] Out 0748z S2	Malc, RNGB	WED
0745z	03/06 [342/00] Out 0748z S2	Malc, RNGB	WED
0745z	05/06 [344/00] Out 0748z S4	Malc	FRI
0745z	10/06 [342/00] Out 0748z S2	Malc	WED
0745z	12/06 [344/00] Out 0748z S3	Malc, RNGB	FRI
0745z	17/06 [348/30 15049 39934 43623 51315 38383 52893 49720.....42780 80106] Out 0755z S3	RNGB, Malc	WED
0745z	19/06 [348/30 15049.....etc] Repeat of Wednesday	Malc	FRI
0745z	24/06 [342/00] Out 0748z S3	Malc	WED
0745z	26/06 [348/00] Out 0748z S3	Malc	FRI
15800kHz 0640z	04/05 [944/00]	RNGB	MON
0640z	06/05 [945/00] Out 0643z S2 (Dutch SDR)	Malc	WED
0640z	11/05 [949/00] Out 0643z S2	Malc	MON
0640z	13/05 [942/00] Out 0643z S2 (Dutch SDR)	Malc	WED
0640z	18/05 [949/26 83776 04092 89102 80191 37349 58232 75474 24019.....20209 19840]	RNGB, Malc	MON
0640z	20/05 [949/26 83776.....etc] Repeat of Monday	Malc	WED
0640z	25/05 [946/00] Out 0643z S2	Malc	MON
0640z	27/05 [946/00] Out 0643z S4	Malc	WED
0640z	01/06 [945/00] Out 0643z S4	Malc, RNGB	MON
0640z	03/06 [945/00] Out 0643z S2	Malc	WED
0640z	08/06 [948/00] Out 0643z S5	Malc	MON
0640z	10/06 [940/00] Out 0643z S3	Malc	WED
0640z	15/06 [941/00] Out 0643z S2	Malc, RNGB	MON
0640z	17/06 [941/00] Out 0643z S3	Malc	WED
0640z	22/06 [942/28 73442.....31612] Out 0649z S3	Malc	MON
0640z	24/06 [942/28 73442.....etc] Repeat of Monday	Malc	WED
17378kHz 0820z	06/05 [134/00] Out 0823z S2	Malc	WED
0820z	12/05 [134/00] Out 0823z S2	Malc, RNGB	TUE
0820z	13/05 [138/00] Out 0823z S3	Malc, RNGB	WED
0820z	19/05 [132/00] Out 0823z S2	Malc	TUE
0820z	27/05 [135/33 17881.....23451] Out 0823z S3	Malc	WED
0820z	02/06 [132/00] Out 0823z S2	Malc	TUE
0820z	03/06 [132/00] Out 0823z S2	Malc, RNGB	WED
0820z	09/06 [135/00] Out 0823z S3	Malc	TUE
0820z	10/06 [134/00] Out 0823z S2	Malc, RNGB	WED
0820z	16/06 [132/00] Out 0823z S2	Malc	TUE
0820z	17/06 [136/00] Out 0823z S3	Malc, RNGB	WED

## E17z

### May 2020

#### Thursday

0800z	16780kHz	0810z	12850kHz	
07/05	217 438 5 47665 94093 48521 63888 92060 438 5 00000			Weak DutchSDR
14/05	217 438 5 47665 94092 48521 63888 92060 438 5 00000			Weak DutchSDR
21/05	217 964 5 93103 50754 67941 35571 71583 964 5 00000			Weak DutchSDR
28/05	217 964 5 92103 50754 67941 35571 71582 964 5 00000			Weak

### June 2020

04/06	217 943 5 46062 68672 97478 39685 30485 943 5 00000			Weak, Dutch SDR
11/06	217 943 5 46062 68672 97478 39685 30485 943 5 00000	~1 min late		Weak, Dutch SDR
18/06	217 806 5 95693 44704 03156 44395 63319 806 5 00000	[0810z QRM]		Weak, DutchSDR

# E25

No Reports

# G06

Thursday

May 2020

1830z 6887kHz

14/05	842 902 45 12435 ... 32442 902 45 00000	Weak
28/05	842 902 43 12435 ... 32442 902 43 00000	Weak

June 2020

11/06	842 901 44 11532 ... 38780 901 99 00000	Weak
25/06	842 111 42 45671 ... 03856 111 42 00000	Weak

Friday

May 2020 Nil Reports

June 2020

1930z 5935kHz

26/06 218 Unworkable, QRM/QRN

PoSW's Logs:

### Second + Fourth Thursdays in the Month 1830 UTC Schedule:-

14-May-20:- 6887 kHz, call "842", DK/GC "902 902 45 45", had started when tuned in just before the half-hour. Ended before 1841 UTC followed almost at once by computer shut-down sound.

28-May-20:- 6887 kHz, "842" and "902 902 45 45" again, computer shut-down heard shortly after end of transmission.

11-June-20:- 6887 kHz, call "842", DK/GC "901 901 44 44", strong signal.

25-June-20:- 6887 kHz, "842", DK/GC "111 111 42 42", ended just before 1840z followed by computer shut-down sound.

### Friday 1930 UTC Schedule Following Second + Fourth Thursdays:-

29-May-20:- 5936 kHz, call "218", DK/GC "902 902 45 45", not too strong.

12-June-20:- 5935 kHz, "218" and DK/GC "130 130 44 44", strong signal.

# S06

S06 log May 2020

Thursdays	0830z	17475kHz	0930z	14736kHz
07/05	'842' 691 30	.....58610 80487 27217 37051 39563 05746 64475 20675	56732 48856 76406 12512 28289 25846 43995 96764 46618 30447	69961 32314 07559 24057 47302 89208 691 30 00000 (Very weak, unable to copy start)
14/05	'842' 509 31	26248 59233 34983 49750 65831 93117 67316 68845 62797 57174 42601 14713 11533 58681 43493 06964 16711 29093 42674 61023 90604 80432 28549 35405 83131 24276 43936 43880 36610 14278 42437 509 31 00000] 0940z		
21/05	'842' 167 32	32619 38354 63612 44133 99465 72613 09947 25515 27473 80928 06877 56773 65929 29634 60570 16189 18422 72586 94861 70753 34044 00928 68866 08023 85416 26952 65020 20024 06960 69224 83449 18894 167 32 00000		
28/05	'842' 579 33	62121 51919 49116 97058 76171 41814 10783 36180 74842 96090 14788 59456 08160 50780 45853 88320 47431 58111 18515 37430 50776 07867 52660 36066 88894 50008 55397 81279 29536 10761 70226 27459 04096 579 33 00000		



<b>Fridays (1st &amp; 3rd)</b>	<b>1900z</b>	<b>9336khz</b>	<b>2000z</b>	<b>7315kHz</b>
01/05 '452' 0000				
15/05 '452' 761 59	20169 96297 94922 13174 55729 28132 64600 39710 17206 71727 70822 80846 94417 71825 22622 97390 63211 04123 24878 17424 39665 81775 21506 13281 72718 50614 24775 53881 75753 07021 21909 68301 47357 45042 59597 97627 75611 90779 04049 50957 79194 64931 08429 01623 39341 41557 06163 94460 66867 62960 52668 38525 09358 48773 22526 89950 03650 96668 84234 761 59 00000			

**S06s May log:**

**Monday**

4th/11th	0630/0640z	16320/14875	'462' 581 7 46062 68772 97478 39685 30485 96632 52537
18th/25th			'462' 817 5 88620 58069 61732 74537 57440
4th/11th	0830/0840z	8221/9353	'764' 283 5 21767 53672 11834 81022 36903
18th/25th			'764' 210 5 39534 17228 15636 47890 23247
4th/11th	0900/0910z	16380/14835	'232' 594 6 05899 50387 45847 23013 89758 52343
18th/25th			'232' 460 5 50128 99477 83574 48874 94031
4th/11th	1200/1210z	10230/12165	'149' 275 6 24236 84028 82278 06280 25826 15911
18th/25th			'149' 230 5 81413 94073 83531 94063 63156

**Tuesday**

5th/12th	0600/0610z	15945/16945	'438' 592 6 91943 58456 74439 59317 44671 77973
19th/26th			'438' 219 5 48115 24151 51802 23807 15521
5th/12th	0700/0710z	5430/6780	'452' 870 6 46692 63034 96502 00040 35152 59388
19th/26th			'452' 938 6 18283 10094 73140 16277 43912 76162
5th/12th	0730/0740z	7365/11655	'427' 960 5 58158 25028 58905 63224 29562
19th/26th			'427' 806 5 75717 80332 65125 57051 43690
5th/12th	0800/0810z	14373/12935	'127' 963 5 75909 68049 36457 63466 37246
19th/26th			'127' 890 5 91943 58456 74439 59317 77454
5th/12th	1000/1010z	4820/5660	'427' 980 5 77212 71844 50663 85412 77278
19th/26th			'427' 906 5 39534 17228 15636 47891 23247
5th/12th	1100/1110z	6810/7560	'265' 984 7 32683 51837 33375 05064 88562 92440 64585
19th/26th			'265' 418 7 11171 64385 82707 06123 22536 88280 84116
5th/12th	1500/1510z	6766/7744	'914' 860 5 69782 05599 02821 05947 90463
19th/26th			'914' 203 5 88620 58069 61732 74537 57440

**Wednesday**

6th/13th	0730/0740z	11530/14977	'172' 943 5 74664 83673 24367 38606 17301
20th/27th			'172' 943 5 74664 83673 24367 38606 17301
6th/13th	0830/0840z	11565/12560	'464' 913 5 00974 23766 87879 50100 03109
20th/27th			'464' 913 5 00974 23766 87879 50100 03109
6th/13th	1000/1010z	14580/16020	'276' 498 5 31614 03339 92756 97184 67603
20th/27th			'276' 498 5 31614 03339 92756 97184 67603

**Thursday**

7th/14th (E17z)	0800/0810z	16780/12850	'217' 964 5 92103 50754 67941 35571 71582
21st/28th			'217' 964 5 92103 50754 67941 35571 71582
7th/14th	0930/0940z	9255/10325	'698' 230 5 49301 00194 05454 15758 74290
21st/28th			'698' 230 5 49301 00194 05454 15758 74290
7th/14th	1200/1210z	13145/14535	'175' 840 6 15577 34020 27466 50913 18221
21st/28th			'175' 840 6 15577 34020 27466 50913 18221

**Friday**

1st/8th	0830/0840z	10290/9655	'156' 984 7 17301 88554 82045 46717 24042 75956 31670
15th/22nd			'156' 849 7 46062 68672 97478 39685 30485 96632 52537
1st/8th	0900/0910z	6844/7161	'239' 814 5 15009 34140 78386 91497 82963
15th/22nd			'239' 88620 58069 67132 74537 57440

**Saturday**

2nd	0800/0810z	12460/10250	'132' 468 5 42676 03732 96319 30647 67269
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With thanks to Daniel E, RRGB, Malc, Ary, HfD

**S06 log June 2020**

**Thursdays**

	<b>0830z</b>	<b>16022kHz</b>	<b>0930z</b>	<b>13925kHz</b>
04/06	'842' 160 32 75417 64265 23893 79761 76687 18876 90881 47575 96010 96365 80644 97694 01880 45712 45656 05466 10837 23728 15471 21071 60884 30851 19393 01656 65847 51708 33079 63077 67883 86414 26353 90135 160 32 00000			
18/06	'842' 597 34 16986 19138 98405 28017 21173 31138 20257 79246 50754 64083 99536 95172 61926 47080 97370 34435 87902 21267 69819 04167 73500 31509 20093 89820 68031 09595 08283 72596 56179 47376 10807 95399 31554 83282 597 34 00000] 0940z			

**Fridays (1st & 3rd)**

	<b>2000z</b>	<b>9336khz</b>	<b>2100z</b>	<b>7315kHz</b>
05/06 '452' 00000				
19/06 '452' 00000				

**S06s June log:**

**Monday**

1st/8th	0630/0640z	16320/14875	'462' 935 7 24541 33941 56823 43884 85518 35628 05816
15th/22nd			'462' 837 5 77212 71844 50663 85412 77278
1st/8th	0830/0840z	8221/9353	'764' 892 5 11822 11998 40402 90284 37473
15th/22nd			'764' 280 5 88138 64936 68145 31714 75945
1st/8th	0900/0910z	16380/14835	'232' 978 5 92103 50754 67971 35571 71534
15th/22nd			'232' 849 5 91943 58456 74439 59317 44671
1st/8th	1200/1210z	10230/12165	'149' 876 5 80295 33507 30206 94427 99804
15th/22nd			'149' 237 5 40614 77249 40678 17976 21816

**Tuesday**

2nd/9th	0600/0610z	15945/16945	'438' 562 7 49301 00194 05098 15758 74290 25177 82959
16th/23rd			'438' 269 5 88569 89617 25757 77159 95225
2nd/9th	0700/0710z	5430/6780	'452' 980 6 88630 68069 32743 75473 06234 33646
16th/23rd			'452' 987 6 58158 25028 58905 63224 29562 65838
2nd/9th	0730/0740z	7365/11655	'427' 930 5 10597 23521 25616 56069 96813
16th/23rd			'427' 896 5 75909 68049 36457 63466 37257
2nd/9th	0800/0810z	14373/12935	'127' 960 5 13577 79302 53516 25616 11171
16th/23rd			'127' 439 5 49514 36208 00863 32683 42937
2nd/9th	1000/1010z	4820/5660	'427' 950 6 40614 77249 40789 17967 21861
16th/23rd			'427' 896 5 18283 10094 73140 16277 43912
2nd/9th	1100/1110z	6810/7560	'265' 910 7 88620 58069 61732 74537 57440 10597 23521
16th/23rd			'265' 431 7 91943 58456 74439 59317 44671 77973 45424
2nd/9th	1500/1510z	6766/7744	'914' 830 5 20534 11160 43494 37638 16070
16th/23rd			'914' 236 5 74954 64839 17034 16239 33138

**Wednesday**

3rd/10th	0730/0740z	11530/14977	'172' 430 5 48115 24151 51802 23807 15521
17th/24th			'172' 803 5 10107 60562 48015 36417 12362
3rd/10th	0830/0840z	11565/12560	'464' 213 5 42997 94184 47374 74154 08531
17th/24th			'464' 902 5 73687 04565 39895 91670 29257
3rd/10th	1000/1010z	14580/16020	'276' 901 5 88569 89617 25757 77159 95225
17th/24th			'276' 891 5 69816 97314 15802 70076 29442

**Thursday**

4th/11th (E17z)	0800/0810z	16780/12850	'217' 943 5 46062 68672 97478 39685 30485
18th/25th			'217' 806 5 95693 44704 03156 44395 63319
4th/11th	0930/0940z	9255/10325	'698' 423 5 88620 58069 61732 74537 57440
18th/25th			'698' 204 5 20136 15313 38142 95693 97314
4th/11th	1200/1210z	13145/14535	'175' 298 6 33796 13577 74526 46647 79302 53516
18th/25th			'175' 230 6 12362 84620 8017158802 49635 08973

**Friday**

5th/12th	0830/0840z	10290/9655	'156' 293 7 78820 64357 26528 34652 80635 06404 23278
19th/26th			'156' 209 7 91670 29257 69816 97314 15802
5th/12th	0900/0910z	6844/7161	'239' 487 5 17742 67496 39842 17109 09261
19th/26th			'239' 801 5 36924 98924 57353 33884 82486

**Saturday**

6th	0800/0810z	12460/10250	'132' 950 6 20205 64336 95534 08446 87636 04475
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With thanks to Daniel E, RRGB, Malc, Ary, HfD

PoS's logs:

S06. OM Voice:-

First + Third Fridays in the Month Schedule:-

Heard at 1900 + 2000 UTC in May, moved to 2000 + 2100 UTC in June:-

1-May-20:- 1900 UTC, 9336 kHz, "452 452 452 00000", good signal, unable to find the second sending at 2000 UTC, presumably between one or two MHz lower in frequency.

Forgot to check this one on the third Friday in May, the 22<sup>nd</sup>, lost track of the days of the week with this lock-down business.

5-June-20:- 2000 UTC, 9336 kHz, nothing heard at 1900z so assumed it had moved by one hour, carrier on 9336 noted at 1938, tone followed by a single "452" at 1948z.

"452 452 452 00000", good signal, S9 with QSB.

2100 UTC, 10 pm local time here, 7315 kHz, second sending, strong signal inside the 41/42 metre band, slight interference from broadcast station.

19-June-20:- 2000 UTC, 9336 kHz, "452 452 452 00000", S6 to S7.

2100 UTC, 7310 kHz, strong signal.

## S06s, YL Voice:-

Some of the stronger signals heard from “Young Olga” during the last two months:-

### Tuesday 0730 + 0740 UTC Schedule, Call “427”:-

5-May-20:- 0730 UTC, 7365 kHz, DK/GC “960 960 5 5”, good signal, “58158 25028 58905 63224 29562”.

0740 UTC, 11655 kHz, second sending, slightly weaker signal.

2-June-20:- 0730 UTC, 7365 kHz, DK/GC “930 930 5 5”, “10597 23521 25616 56069 96813”, missed second sending.

### Tuesday 0800 + 0810 UTC Schedule, Call “127”:-

12-May-20:- 0800 UTC, 14373 kHz, DK/GC “963 963 5 5”, weak signal, “75909 68049 36457 63466 37246”.

0810 UTC, 12935 kHz, stronger.

### Friday 0830 + 0840 UTC Schedule, Call “156”:-

1-May-20:- 0840 UTC, 9655 kHz, missed 0830z sending which would have been on 10290,

DK/GC “984 984 7 7”, S8 with QSB, “17301 88554 82045 46717 24042 75956 31670”.

15-May-20:- 0830 UTC, 10290 kHz, strong signal, DK/GC “849 849 7 7”, “46062 68672 97478 39685 30485 96632 52537”.

0840 UTC, 9655 kHz, slightly weaker signal.

29-May-20:- 0830 UTC, 10290 kHz, “156 156 156 00000”, the expected “no message” routine this being the fifth Friday in this month, strong signal.

0839 UTC, just after, 9655 kHz, second sending with the expected early start.

12-June-20:- 0830 UTC, 10290 kHz, DK/GC “293 293 7 7”, strong signal, “78820 64357 26528 34652 80635 06404 23278”

0840 UTC, 9655 kHz, also strong, started a second or two early by my watch which is unusual for S06s.

### First Saturday in the Month 0800 + 0810 UTC Schedule, Call “132”:-

2-May-20:- 0800 UTC, 12460 kHz, DK/GC “468 468 5 5”, fair signal, “42676 03732 96319

30647 67269”.

0810 UTC, 10250 kHz, second sending, weak.

6-June-10:- 0800 UTC, 12460 kHz, DK/GC “950 950 6 6”, “20205 64336 95534 08446 87636 04475”.

0810 UTC, 10250 kHz, weak.

# S11a log May/June

## S11a log May/June:

5082kHz	0915z	01/05 [487/00] Konyetz 0918z S2	(Dutch SDR)	Malc, RNGB	FRI
	0915z	04/05 [487/00] Konyetz 0918z S2		Malc, RNGB	MON
	0915z	08/05 [483/00] Konyetz 0918z S2	(Dutch SDR)	Malc	FRI
	0915z	11/05 [486/31 00625.....51176] Konyetz 0926z S3 (Dutch SDR)		Malc	MON
	0915z	15/05 [486/31 00625.....etc] Repeat of Monday		Malc	FRI
	0915z	18/05 [485/00] Konyetz 0918z S2	(Dutch SDR)	Malc	MON
	0915z	22/05 [482/00] Konyetz 0918z S2		Malc	FRI
	0915z	25/05 [480/00] Konyetz 0918z S2	(Dutch SDR)	Malc	MON
	0915z	29/05 [482/00] Konyetz 0918z S3		Malc	FRI
	0915z	01/06 [483/00] Konyetz 0918z S3	(Dutch SDR)	Malc, RNGB	MON
	0915z	05/06 [485/00] Konyetz 0918z S3	(Dutch SDR)	Malc, RNGB	FRI
	0915z	08/06 [482/00] Konyetz 0918z S3		Malc	MON
	0915z	12/06 [487/00] Konyetz 0918z S2		Malc, RNGB	FRI
	0915z	15/06 [482/32 15846 44975 85486 07806 10598 61677.....00074 49431] Konyetz 0926z S2		RNGB, Malc	MON
	0915z	19/06 [482/32 15846.....etc] Repeat of Monday		Malc	FRI
	0915z	22/06 [484/00] Konyetz 0918z S2	(Dutch SDR)	Malc	MON
	0915z	26/06 [487/00] Konyetz 0918z S2		Malc	FRI
	0915z	29/06 [487/00] Weak		RNGB	MON

5149kHz	1100z	01/05 [379/00] Konyetz 1103z S2	Malc	FRI	
	1100z	06/05 [371/38 86646 78136 41967 63568 25412 33236 89555.....32141] Konyetz 1112z S5	RNGB, Malc	WED	
	1100z	08/05 [371/38 86646.....etc] Repeat of Wednesday	Malc	FRI	
	1100z	13/05 [372/00] Konyetz 1103z S3 (Dutch SDR)	Malc	WED	
	1100z	15/05 [378/00] Konyetz 1103z S4 (Dutch SDR)	Malc	FRI	
	1100z	20/05 [379/00] Konyetz 1103z S3 (Dutch SDR)	Malc, RNGB	WED	
	1100z	22/05 [371/00] Konyetz 1102z S3	Malc, RNGB	FRI	
	1100z	27/05 [376/00] Konyetz 1103z S2	Malc	WED	
	1100z	29/05 [376/00] Konyetz 1103z S2 (Dutch SDR)	Malc	FRI	
	1135z	10/06 [378/36 32014 76866 05421 34116 29548 14971 35280.....08707 62074] Konyetz 1147z	RNGB	WED	
	1135z	12/06 [378/36 32014.....etc] repeat of Wednesday	Malc	FRI	
	1135z	17/06 [378/00] Konyetz 1138z S3 (Dutch SDR)	Malc, RNGB	WED	
	1135z	24/06 [379/00] Konyetz 1138z S2 (Dutch SDR)	Malc	WED	
	1135z	26/06 [378/00] Konyetz 1138z S3 (Dutch SDR)	Malc	FRI	
	6977kHz	1020z	01/05 [426/00]	RNGB	FRI
		1020z	05/05 [422/00] Konyetz 1023z S2	Malc	TUE
1020z		08/05 [420/00] Konyetz 1023z S2	Malc	FRI	
1020z		12/05 [426/33 29441.....84347] Konyetz 1031z S3	Malc	TUE	
1020z		15/05 [426/33 29441.....etc] repeat of Tuesday	Malc	FRI	
1020z		19/05 [422/00] Konyetz 1023z S2	Malc, RNGB	TUE	
1020z		22/05 [425/00] Konyetz 1023z S2	Malc	FRI	
1020z		29/05 [424/00] Konyetz 1023z S2	Malc	FRI	
1020z		02/06 [425/00] Konyetz 1023z S2	Malc	TUE	
1020z		05/06 [421/00] Konyetz 1023z S2	Malc	FRI	
1020z		09/06 [421/00] Konyetz 1023z S3 (Dutch SDR)	Malc	TUE	
1020z		12/06 [426/00] Konyetz 1023z S2	Malc	FRI	
1020z		16/06 [426/00] Konyetz 1023z S2	Malc	TUE	
1020z		23/06 [426/00] Konyetz 1023z S2	Malc	TUE	
1020z		26/06 [425/00] Konyetz 1023z S2	Malc	FRI	
1020z	30/06 [422/00] Konyetz 1023z S2	Malc	TUE		
9339kHz	0700z	04/05 [470/00] Konyetz 0703z S2	Malc	MON	
	0700z	07/05 [470/00] Konyetz 0703z S2	Malc, RNGB	THU	
	0700z	11/05 [470/31 22767.....57530] Konyhetz 0710z S3	Malc	MON	
	0700z	14/05 [470/31 22767.....etc] Repeat of Monday	Malc	THU	
	0700z	18/05 [472/00]	RNGB, Malc	MON	
	0700z	21/05 [476/00] Konyetz 0703z S3	Malc	THU	
	0700z	25/05 [478/00] Konyetz 0703z S3	Malc	MON	
	0700z	01/06 [470/30 70807.....92815] Konyetz 0710z S3	Malc	MON	
	0700z	04/06 [470/30 70807 77286 94796 33082 07525 64565 64695 53687.....18231 92815]	RNGB, Malc	THU	
	0700z	08/06 [472/00] Konyetz 0703z S2	Malc	MON	
	0700z	11/06 [476/00] Konyetz 0703z S3	Malc, RNGB	THU	
	0700z	15/06 [479/00] Konyetz 0703z S3	Malc	MON	
	0700z	18/06 [479/00]	RNGB	THU	
	0700z	22/06 [479/38 73715.....51333] Konyetz 0712z S2	Malc	MON	
0700z	25/06 [479/38 73715.....etc] Repeat of Monday	Malc	THU		
0700z	29/06 [471/00] Konyetz 0703z S2	Malc	MON		
12457kHz	1850z	02/05 [396/00] Konyetz 1853z S9	Malc	SAT	
	1850z	06/05 [285/37 94669.....31290] Konyetyz 1902z S4	Malc	WED	
	1850z	09/05 [285/37 94669.....etc] Repeat of Wednesday	Malc	SAT	
	1850z	13/05 [282/00] Konyetz 1853z S3	Malc	WED	
	1850z	16/05 [282/00] Konyetz 1853z S4	Malc	SAT	
	1850z	20/05 [288/00] Konyetz 1853z S3	Malc	WED	
	1850z	23/05 [288/00] Konyetz 1853z S8	Malc	SAT	
	1850z	27/05 [286/00] Konyetz 1853z S4	Malc	WED	
	1850z	30/05 [284/00] Konyetz 1853z S3	Malc	SAT	
	1850z	03/06 [284/00] Konyetz 1853z S2	Malc	WED	
	1850z	06/06 [287/00] Konyetz 1853z S6	Malc	SAT	
	1850z	10/06 [284/35 45720.....82537] Konyetz 1902z S4	Malc	WED	
	1850z	17/06 [281/00] Konyetz 1853z S4	Malc	WED	
	1850z	20/06 [285/00] Konyetz 1853z S6	Malc	SAT	
	1850z	24/06 [287/00] Konyetz 1853z S4	Malc	WED	
13537kHz	0510z	01/06 [655/00]	RNGB	MON	
15720kHz	0715z	25/05 [387/00]	RNGB, Malc	MON	
	0715z	27/05 [385/00] Konyetz 0718z S2	Malc, RNGB	WED	
	0715z	01/06 [382/38 80420 77573 45309 29033 98814 13823 78142 37332.....43816 77037]	RNGB	MON	
	0715z	03/06 [382/38 80420.....etc]	Malc	WED	
	0715z	08/06 [381/00] Konyetz 0718z S4	Malc	MON	

0715z	10/06 [387/00] Konyetz 0718z S3	Malc, RNGB	WED
0715z	15/06 [387/00] Konyetz 0718z S3	Malc, RNGB	MON
0715z	17/06 [389/00] Konyetz 0718z S3	Malc	WED
0715z	22/06 [380/00] Konyetz 0718z S3	Malc, RNGB	MON
0715z	24/06 [389/00] Konyetz 0718z S3	Malc	WED
0715z	29/06 [385/00] Konyetz 0718z S3	Malc	MON

# V07

## May 2020

0300z	13521kHz	0320z	12121kHz	0340z	11421kHz		
03/05	514 1 8481 96 59339 ... 25013 000 000					Via SDR USA	DanAr SUN
10/05	514 000					Via SDR USA- Weak	DanAr SUN
17/05	514 1 2215 6? 512?? .....?????					QSA1 - Via SDR USA-	DanAr SUN
24/05	514 1 9492 48 42428 ... 31691 000 000					[0300z Unworkable]	Weak DanAr SUN

514 1 9492 48

42428 24608 12486 80759 19870  
73344 83846 24884 73339 94887  
85535 81650 01??0 54143 89969  
30467 74437 49403 80567 07237  
47846 90444 04482 7?132 11315  
54781 29810 21999 06?32 13088  
18395 88195 18213 71435 82592  
72480 772?1 76173 75278 35060  
49758 74??5 15834 26773 43190  
67582 91910 31691 000 000  
*Courtesy DanAR*

## June 2020

0300z	13479kHz	0320z	12179kHz	0340z	11479kHz		
07/06	414 1 9808 56 18122 ... 79360 000 000)					QSA3 -SDR USA-	DanAR SUN

414 414 414 1 9808 56  
18122 45640 40862 68796 98469  
93214 23370 80722 93561 38110  
18071 22103 55899 06211 88378  
20697 60451 45773 27637 47320  
23512 67530 01535 04284 81693  
04920 21496 34395 55973 01034  
13770 05855 43544 82872 90699  
67448 62970 41986 92397 42599  
48804 31065 14380 03566 11989  
68284 35769 47499 70314 92787  
53684 68921 99512 67804 78254  
79360 000 000 *Courtesy DanAr*

14/06	414 1 566 112 08433 ... 24898 000 000	[0300z]	Weak SDR USA
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414 414 414 1  
566 112  
08443 17725 00038 89366 93998  
57491 25040 19059 01869 53858  
86793 43273 44210 09736 26460  
70283 53272 66754 35413 45873  
36716 08580 81365 45979 07187  
62406 88114 30331 68071 47084  
26565 00143 64898 18752 62897  
72694 94740 61049 03562 25457  
62047 57905 49525 87018 95159  
25905 99860 50358 39124 57839  
84977 09484 59015 35716 46017  
83910 95858 05342 42185 33007  
79395 86386 97119 53493 64621  
20292 95677 49149 33020 11570  
17567 54296 02934 30980 81123  
14151 23425 65653 70279 79202  
03320 74823 38741 11254 68018  
78229 76344 33517 40390 29261  
95704 49830 02282 74971 60460  
16395 10997 68169 40146 62017  
79322 71610 19584 60100 64152  
83780 79693 90969 23759 15143  
02601 24898 000 000  
*Courtesy DanAr*

414 414 414 1  
 9669 105  
 76104 21468 93233 78072 11894  
 93753 43076 80776 61327 32911  
 70969 18143 30325 71320 72224  
 52972 77819 51818 74810 52619  
 81273 91330 89374 39505 08959  
 79315 32123 39314 53331 67873  
 53860 49414 84048 74897 21300  
 74935 30553 41313 80724 36796  
 06426 14791 60639 65201 63646  
 89892 91426 78551 45875 74836  
 83015 98113 15271 01664 37883  
 09274 75831 84706 27473 15056  
 75031 68807 49690 97279 27211  
 11766 55412 96082 39533 53403  
 71376 97733 81934 64251 95990  
 92884 95795 09533 22141 88536  
 49122 62731 39900 98051 51389  
 22719 65785 25094 04163 23834  
 75325 45533 22189 22915 51155  
 68446 11576 06822 53632 55637  
 67370 58758 48184 89378 16583  
 000 000 Courtesy DanAr

13479kHz0300z 28/06 (414 414 414 1 130 90 42361 71242 98167 ... 73355 27682 000 000) QSA2 QRM1 QSB2 -SDR JAPAN- QRM from a swept signal DanAR SUN

## V13

7502kHz1300z 06/06 Flute tune followed by a message in Chinese Ary SAT  
 9276kHz1200z 06/06 New Star Broadcasting. Flute tune followed by a message in Chinese Ary SAT  
 13974kHz1300z 06/06 Flute tune followed by a message in Chinese Ary SAT  
 15890kHz1200z 05/06 New Star Broadcasting. Flute tune followed by a message in Chinese Ary FRI  
 15890kHz1201z 06/06 New Star Broadcasting. Flute tune followed by a message in Chinese Ary SAT

## V15 North Korean Intelligence via Radio Pyongyang

## V24

5715kHz1500z 19/05 AM K-popsong followed by a message in Korean Ary TUE  
 6310 kHz1530z 08/05 K-popsong followed by a message in Korean Ary FRI  
 5290kHz1430z 03/06 K-popsong followed by a message in Korean Ary WED

## V26

4243kHz1234z 01/05[(From M95 sked - USB - Chinese - Female - // N/H) (Remote tuner Japan)] JPL FRI  
 4243kHz2357z 09/05[(From M95 sked - USB - Chinese - Female - // N/H) (Remote tuner Hebei)] JPL SAT

## Polytones

### XPA1 c

Tuesday/Thursday

May 2020

0710z	11169kHz	0730z	12179kHz	0750z	13431kHz	
05/05	214 000 06787 00001 00000 ... 40266					Fair
07/05	214 000 03024 00001 00000 ... 33255					Strong

12/05	214 000 09523 00001 00000 ... 33666	[0710z QSB3]	Fair
14/05	214 000 09177 00001 00000 ... 35270		Very strong
19/05	214 1 08898 00190 32252 ... 30673	[0710z Weak]	Fair
21/05	214 1 08898 00190 32252 ... 30673	[0710z Weak]	Strong
26/05	Weak, QRM3/4 Unworkable		
28/05	214 1 08898 00190 32252 ... 30673	[0710z Fair]	Very strong

**June 2020**

0710z	11421kHz	0730z	12151kHz	0750z	13972kHz		
02/06	976 000 04031 00001 00000 ... 31657					[0730z not monitored]	Weak, noisy
02/06	976 000 01436 00001 00000 ... 36254					[0730z not monitored]	Fair, noisy
09/06	976 000 05427 00001 00000 ... 36657					[0730z not monitored]	Fair
11/06	976 000 03698 00001 00000 ... 40264					[0710z Noisy]	Fair
16/06	NOT MONITORED						
18/06	00123 00128 66202 ... 12676					[0710z Fair]	Strong

976 976 976 1 976 976 976 1 976 976 976 1

00123 00128 66202 18555 63217 69066 53637 28400 85108 88926  
 20968 04207 92867 12602 30261 05213 29817 21912 36934 11351  
 94746 36188 66664 26845 30265 34442 08699 17844 45847 10029  
 99373 06767 21696 21036 53018 72361 73749 42447 00763 92444  
 67665 06908 56762 76797 10151 23243 18472 75121 09108 11380  
 86254 48927 94218 02405 34318 87637 53358 72468 17268 56903  
 90428 08171 93606 32429

19167 75012 57647 18994 23488 54416 71018 66312 22453 82133  
 78228 81582 00616 38948 49299 10768 36775 06259 45126 10705  
 99425 28385 04648 86534 85725 76378 34588 65683 99545 96592  
 59956 58944 85387 51478 96553 02800 55381 55860 99948 83001  
 54448 89236 90390 23307 99972 83951 44250 28727 23949 35774  
 23113 73321 35199 68885 52478 76355 90683 07203 31225 31044  
 52270 06707 31915 07303

46945 84528 12676 *Courtesy PLdn*

22/06	00123 00128 66202 ... 12676		Fair
25/06	00123 00128 66202 ... 12676		Strong
30/06	976 000 08815 00001 00000 ... 37661	[0700z Fair, QRM3/4]	Strong

# XPA2 p **NEW FREQS**

Monday/Wednesday

**May 2020**

0700z	12148kHz	0720z	13448kHz	0740z	13948 kHz		
04/05	00336 00090 93165 ... 26226					Ary	MON
	00336 00090 93165 24889 64726 10011 29261 57085 40250 58427 26826 91959 55655 20318 89356 04329 13882 81396 58230 69817 05610 59761 38288 86487 10138 71757 97173 46515 11148 48820 19957 60520 92420 96124 78275 40705 12895 75196 56534 19672 01684 44207 47960 19895 99166 37386 80089 42684 28285 62351 34101 49642 90606 87715 70056 31893 69614 61905 27474 99982 44618 48437 93196 08318 09832 10162 93816 15204 69370 94863 84375 51210 81052 65539 07068 79817 74239 67408 39226 87388 34097 23288 90347 64867 12147 31055 14188 20087 41094 52514 95266 14753 26226 <i>Courtesy Ary</i>						
11/05	00336 00090 93165 ... 26226						Strong
13/05	00336 00090 93165 ... 26226					[0740z first 1m17s intro QRM3]	Very strong
18/05	04903 00001 00000 ... 37254					[0700z Strong]	Very Strong
25/05	02988 00001 00000 ... 41662						Strong

**June 2020**

0700z	12148kHz	0720z	13348kHz	0740z	13948kHz		
01/06		00319 00099 83091 ... 40332					Strong
<p>00319 00099 83091 64866 93567 80593 99085 79786 93018 93992  47971 71752 69900 02907 08925 71666 01472 56010 84614 28767  91207 85732 85843 55712 19822 89874 12060 66751 99509 14920  57054 33116 77329 04338 01969 29408 44488 32845 91330 53897  94686 57151 64178 73964 38011 12614 99209 91799 70915 99333  65981 21756 20265 76942 97744 91310 02787 00292 93781 97382  16209 91629 43827 79248 50504 34113 44089 97553 00534 49654  24250 07218 61834 54567 41873 69552 50004 44462 55467 27771  19202 79321 71187 18831 34345 79410 84921 47295 30919 43844  39661 95201 46896 59258 23573 16285 70343 05066 08236 47514  66291 40332 <i>Courtesy Ary</i></p>							
03/06		00319 00099 83091 ... 40332					Strong
08/06		00319 00098 83091 ... 40332					Fair
10/06		00319 00099 83091 ... 40332		[0700z Strong]			Weak, QSB3
15/06		04525 00001 00000 ... 36256					Very strong
17/06		07813 00001 00000 ... 36660		[0700z only]			Strong
22/06		05066 00001 00000 ... 34263					Very strong
24/06		08997 00001 00000 ... 41271					Strong
29/06		00236 00093 71513 ... 42362		[0700z Very strong]			Fair

## XPA2 others

### Sunday/Tuesday

2100z	13376kHz	2120z	11576kHz	2140z	10776kHz		
03/05		00279 00155 78864 ... 07604					Ary, DanAr SUN
<p>00279 00155 78864 19865 34086 56673 84595 72702 96515 27740  61937 73867 26872 36382 37220 58092 57521 72674 20463 16660  27077 07795 00930 54720 96423 79796 32306 02517 49949 63653  45206 83935 33274 51085 24763 56972 99235 66452 23994 85897  60726 21511 38120 78925 97946 96215 44390 24345 51243 26090  47785 67223 04699 18823 49236 56809 28914 65280 63980 23655  55690 01745 09011 29654 42861 21600 96651 21353 65183 88343  04368 11242 63454 97971 63892 31018 31469 96119 02361 39107  27765 57544 79459 49009 13623 08632 07974 21213 68227 00138  37905 58851 07047 92029 82521 23384 89585 78987 65397 94984  50794 65834 89378 40578 59335 99603 39403 46246 60715 63282  81205 15054 40485 62191 54329 15685 24578 53958 16386 47767  70572 95723 22284 25895 01050 30388 46793 08483 56745 20973  79809 55648 27455 52195 45911 42158 84919 82245 50917 16650  60366 30483 58005 63603 54510 92672 40039 71919 95680 40510  49498 95126 40832 49526 18527 37589 70068 04650 80036 59156  23468 70249 33545 26269 79419 94950 61413 72306 07604  <i>Courtesy Ary/DanAr</i></p>							
05/05		00383 00068 30125 ... 54366					Very strong
10/05		00383 00068 30125 ... 54366					Weak, QRM/QSB DanAr
17/05		00198 00066 38870 85488 ....????? ?????] QSA2 QSB1 QRM2					DanAR SUN
24/05		00335 00186 77790 ... 74671				Weak	DanAR SUN
31/05		00178 00098 38629 ... 70271		QSA2 QSB1		Weak	DanAR SUN

### June 2020

2100z	13427kHz	2120z	12227kHz	2140z	10827kHz		
02/06		00778 00080 42133 ... 30017				[2140z Very strong]	Weak
07/06		00778 00080 42133 ... 30017					Fair
09/06		04961 00206 96576 ... 71177				[2100z Fair]	Strong
14/06		04961 00206 96576 ... 71177				[2100z Strong]	Very strong
16/06		05832 00228 60707 ... 20746					Strong [5m05s lg]
21/06		05832 00228 60706 ... 20746					Very strong
28/06		00349 00198 34252 ... 50412				[2140z Fair]	Weak



**XPA2 [Mon/Sat]**

**1500z 15938kHz 1520z 14538kHz 1540z 13438kHz**

Sat 02.05.2020 1500Z 15938 msg H-FD  
 Sat 02.05.2020 1520Z 14538 msg H-FD  
 Sat 02.05.2020 1540Z 13438 msg -FD

04/05	07583 00001 00000 ... 35267	[1500z Unworkable]	Fair [PLdn]
09/05	01790 00001 00000 ... 34662	[1500z NRH, 1520z Unworkable]	Fair
11/05	00584 00237 58612 ... 26335	[1500z NRH]	5m12s lg Fair
16/05	00584 00237 58612 ... 26335	[1500z NRH]	5m12s lg Fair
18/05	04135 00001 00000 ... 34257	[1500z NRH]	Weak
23/05	04046 00001 00000 ... 34260	[1500z NRH]	Weak
25/05	Too weak for process		
30/05	Too weak for process		

Other XPA2

11124kHz 2120z 06/05 (08445 00054 22633 04946 61354 ...81155 43360) QSA2 DanAR WED

**XPA2 [Wed]**

**1100z 16147kHz 1120z 15847kHz 1140z 14747kHz**

20/05 00332 00170 77803 ... 06020 Ary WED

00332 00170 77803 41008 50602 30003 47665 23986 50567 99314  
 73226 32153 80277 98939 66905 74467 51422 28696 26505 25067  
 69145 85041 12430 92908 76058 45082 59661 32096 04268 28717  
 81526 83945 80115 45302 71914 08543 14696 79282 67099 20647  
 98635 71374 62755 54849 59883 62408 69698 06710 56033 45431  
 01431 11838 41024 05044 93494 13099 53330 06875 00677 70523  
 06921 28360 06040 57890 99595 69599 85380 19246 81119 83805  
 92007 11947 21151 63691 82431 48776 29785 67743 50284 10150  
 27675 21489 97567 28406 50618 60946 58534 66523 74429 35515  
 39396 01151 01949 64214 06231 16231 77528 42633 73760 83537  
 17894 91211 52098 19425 71802 58100 64629 71871 87228 54920  
 73497 39258 50405 54300 88778 51829 66564 14611 05563 00491  
 84451 88041 70584 85440 33614 29719 34389 02848 07796 19646  
 01075 50023 82396 11130 71982 56119 32497 89723 95966 79360  
 16788 19461 29577 42025 68802 68762 80806 79361 05346 88130  
 12729 64508 14821 23930 90712 22203 68901 74234 28563 60264  
 67149 05373 41050 02485 16811 88080 16591 08328 74561 88820  
 64522 35861 06020 *Courtesy Ary*

**1100z 15982kHz 1120z 14982kHz 1140z 13882kHz**

03/06 02352 00118 83337 ... 75735 Gert WED

02352 00118 83337 33355 96730 46049 73158 28378 80611 89025  
 74803 56723 19585 54556 76304 76667 55404 10021 87966 42183  
 03062 66449 11280 90963 68212 54965 35873 14725 50823 97762  
 78580 33300 83159 70781 81819 73950 63578 26777 32218 44985  
 28085 41665 76283 33952 36709 02649 36056 62937 70691 42676  
 11272 60102 34016 62099 41583 80331 37650 29489 27138 71718  
 58335 33283 34655 52807 10127 30686 87177 31023 33826 62383  
 61046 20320 61819 34737 26146 61657 71171 71774 67369 12417  
 69750 77220 12898 44888 07974 82452 43984 22263 95183 47459  
 62400 35700 10227 35699 80373 68729 91422 17799 40750 16272  
 49593 99826 73756 27352 08210 19121 21193 12346 28463 42809  
 58038 00627 22086 66224 60751 80799 99973 87700 30895 96145  
 75735 *Courtesy Gert*

XPA2 [Wed]

2100z 13462kHz 2120z 12162kHz 2140z 11562kHz [Thanks Ary/Danix]

03/06 00530 00080 11685 ... 17550 Ary WED

00530 00080 11685 35600 88931 75200 05289 00825 05502 69372  
 15882 24919 13764 69049 42260 19889 42296 12155 00995 45595  
 76984 96849 02228 81597 54189 02207 09875 52105 95549 21899  
 37907 43315 29693 59341 85868 19272 17486 85644 65218 01034  
 07196 67989 44424 80873 05676 42393 41723 79672 96145 70939  
 22212 83026 69652 83866 75141 94076 58602 66108 57917 41649  
 09246 56967 88415 64956 42968 24075 42673 02722 36971 68904  
 76632 31654 00018 24450 94416 93465 73013 33494 79504 64458  
 40010 99743 17550 *Courtesy Ary*

Others from H-FD

Fri 01.05.2020 2100Z 12124 msg  
 Fri 01.05.2020 2120Z 11124 msg  
 Fri 01.05.2020 2140Z 10624 msg

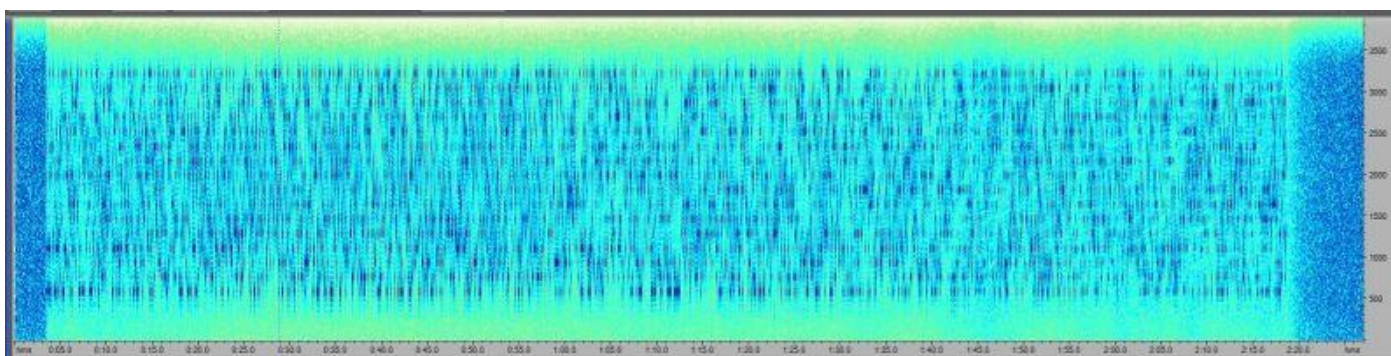
Tue 05.05.2020 1600Z 13538 msg  
 Tue 05.05.2020 1620Z 14438 msg  
 Tue 05.05.2020 1640Z 14938 msg

Wed 06.05.2020 0910Z 17431 msg  
 Wed 06.05.2020 0930Z 15841 msg  
 Wed 06.05.2020 0950Z 13934 msg

11562kHz2140z	24/06	02604 00051 66722 22889 00456 ...06488 55441) QSA2		DanAR	WED
26/06		02705 00162 76733 23999 ... 06399 60552	Weak	DanAR	FRI

# XPB1

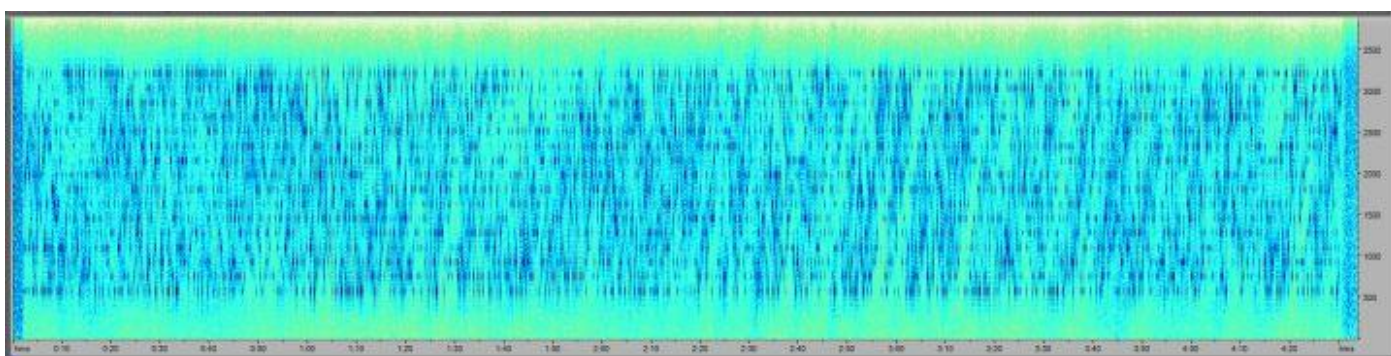
[Thanks to tiNG for date/time corrections]!



XPB1 Sample Message [13952kHz 1910z 03/05]

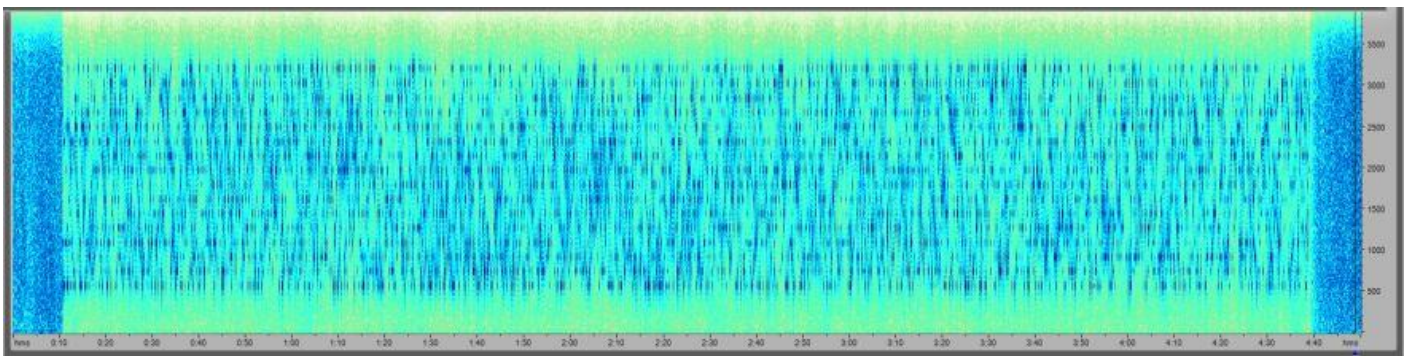
## SUN/TUE

13952kHz 1910z	03/05	Very strong	2m15s lg	PLdn	SUN
12152kHz 1920z	03/05	Strong, localQRM3	2m15s lg	PLdn	SUN
11152kHz 1930z	03/05	Strong	2m15s lg	PLdn	SUN
10352kHz 1940z	03/05	Strong	2m15s lg	PLdn	SUN
9252kHz 1950z	03/05	Strong	2m15s lg	PLdn	SUN
13952kHz 1910z	05/05	Very strong	2m15s lg	PLdn	TUE
12152kHz 1920z	05/05	Very strong	2m15s lg	PLdn	TUE
11152kHz 1930z	05/05	Very strong	2m15s lg	PLdn	TUE
10352kHz 1940z	05/05	Very strong	2m15s lg	PLdn	TUE
9252kHz 1950z	05/05	Very strong	2m15s lg	PLdn	TUE
13952kHz 1910z	10/05	Very strong	2m15s lg	PLdn	SUN
12152kHz 1920z	10/05	Fair, local QRM	2m15s lg	PLdn	SUN
11152kHz 1930z	10/05	Weak, local QRM	2m15s lg	PLdn	SUN
10352kHz 1940z	10/05	Fair	2m15s lg	PLdn	SUN
9252kHz 1950z	10/05	Very strong	2m15s lg	PLdn	SUN



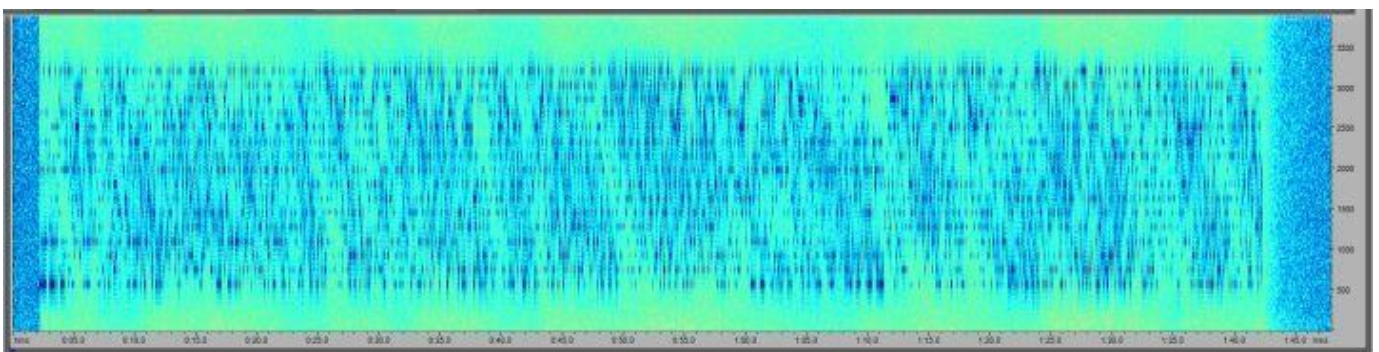
XPB1 12152kHz 1920z 12/05

13952kHz 1910z	12/05	Weak, noisy	4m28s lg	PLdn	TUE
12152kHz 1920z	12/05	Strong	4m28s lg	PLdn	TUE
11152kHz 1930z	12/05	Fair, QSB3	4m28s lg	PLdn	TUE
10352kHz 1940z	12/05	Fair, QSB3	4m28s lg	PLdn	TUE
9252kHz 1950z	12/05	Fair, QSB2	4m28s lg	PLdn	TUE
13952kHz 1910z	17/05	Very strong	4m28s lg	PLdn	SUN
12152kHz 1920z	17/05	Very strong	4m28s lg	PLdn	SUN
11152kHz 1930z	17/05	Very strong	4m28s lg	PLdn	SUN
10352kHz 1940z	17/05	Very strong	4m28s lg	PLdn	SUN
9252kHz 1950z	17/05	Very strong	4m28s lg	PLdn	SUN
13952kHz 1910z	19/05	Very strong	2m15s lg	PLdn	TUE
12152kHz 1920z	19/05	Very strong	2m15s lg	PLdn	TUE
11152kHz 1930z	19/05	Very strong	2m15s lg	PLdn	TUE
10352kHz 1940z	19/05	Very strong	2m15s lg	PLdn	TUE
9252kHz 1950z	19/05	Very strong	2m15s lg	PLdn	TUE
13952kHz 1910z	24/05	Very strong	2m15s lg	PLdn	SUN
12152kHz 1920z	24/05	Very strong	2m15s lg	PLdn	SUN
11152kHz 1930z	24/05	Very strong	2m15s lg	PLdn	SUN
10352kHz 1940z	24/05	Very strong	2m15s lg	PLdn	SUN
9252kHz 1950z	24/05	Very strong	2m15s lg	PLdn	SUN



XPB1 9252kHz 1950z 26/05

13952kHz 1910z	26/05	Very strong	4m28s lg	PLdn	TUE
12152kHz 1920z	26/05	Very strong	4m28s lg	PLdn	TUE
11152kHz 1930z	26/05	Very strong	4m28s lg	PLdn	TUE
10352kHz 1940z	26/05	Very strong	4m28s lg	PLdn	TUE
9252kHz 1950z	26/05	Very strong	4m28s lg	PLdn	TUE
13952kHz 1910z	31/05	Fair, LocalQRM3/4	4m28s lg	PLdn	SUN
12152kHz 1920z	31/05	Very strong	4m28s lg	PLdn	SUN
11152kHz 1930z	31/05	Very strong	4m28s lg	PLdn	SUN
10352kHz 1940z	31/05	Very strong	4m28s lg	PLdn	SUN
9252kHz 1950z	31/05	Very strong	4m28s lg	PLdn	SUN



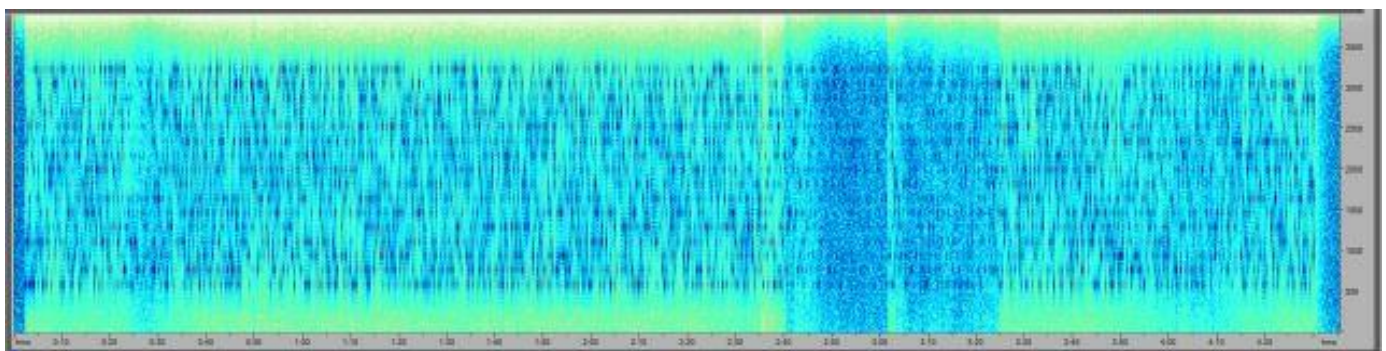
XPB1 12163kHz 1930z 02/06

15863kHz 1900z	02/06	NRH		PLdn	TUE
14963kHz 1910z	02/06	NRH		PLdn	TUE
13963kHz 1920z	02/06	NRH		PLdn	TUE
12163kHz 1930z	02/06	Very strong	1m40s	PLdn	TUE
11163kHz 1940z	02/06	Very strong	1m40s	PLdn	TUE
10463kHz 1950z	02/06	Very strong	1m40s	PLdn	TUE



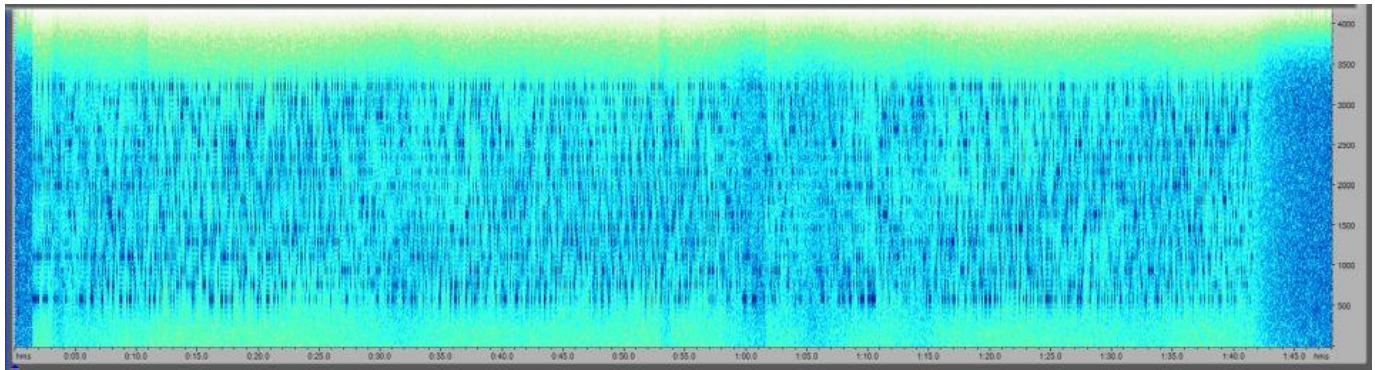
15863kHz 1900z	07/06	Unworkable		PLdn	SUN
14963kHz 1910z	07/06	Weak, QSB3	1m40s	PLdn	SUN
13963kHz 1920z	07/06	NRH		PLdn	SUN
12163kHz 1930z	07/06	Strong	1m40s	PLdn	SUN
11163kHz 1940z	07/06	Very strong	1m40s	PLdn	SUN
10463kHz 1950z	07/06	Very strong	1m40s	PLdn	SUN
15863kHz 1900z	09/06	Weak	1m40s	PLdn	TUE
14963kHz 1910z	09/06	Strong	1m40s	PLdn	TUE
13963kHz 1920z	09/06	NRH		PLdn	TUE
12163kHz 1930z	09/06	Strong	1m40s	PLdn	TUE
11163kHz 1940z	09/06	Very strong	1m40s	PLdn	TUE
10463kHz 1950z	09/06	Very strong	1m40s	PLdn	TUE
15863kHz 1900z	14/06	Very strong	1m40s	PLdn	SUN
14963kHz 1910z	14/06	Very strong	1m40s	PLdn	SUN
13963kHz 1920z	14/06	MISSED .... SDR File error		PLdn	SUN
12163kHz 1930z	14/06	Very strong	1m40s	PLdn	SUN
11163kHz 1940z	14/06	Very strong	1m40s	PLdn	SUN
10463kHz 1950z	14/06	Very strong	1m40s	PLdn	SUN
15863kHz 1900z	16/06	Strong	4m28s	PLdn	TUE
14963kHz 1910z	16/06	Strong	4m28s	PLdn	TUE
13963kHz 1920z	16/06	MISSED .... SDR File error		PLdn	TUE
12163kHz 1930z	16/06	Very strong	4m28s	PLdn	TUE
11163kHz 1940z	16/06	Very strong	4m28s	PLdn	TUE
10463kHz 1950z	16/06	Very strong	4m28s	PLdn	TUE
15863kHz 1900z	21/06	Weak	4m28s	PLdn	SUN
14963kHz 1910z	21/06	Strong	4m28s	PLdn	SUN
13963kHz 1920z	21/06	Strong	4m28s	PLdn	SUN
12163kHz 1930z	21/06	Strong	4m28s	PLdn	SUN
11163kHz 1940z	21/06	Very strong	4m28s	PLdn	SUN
10463kHz 1950z	21/06	Very strong	4m28s	PLdn	SUN
15863kHz 1900z	23/06	Weak	4m28s	PLdn	TUE
14963kHz 1910z	23/06	Fair	4m28s	PLdn	TUE
13963kHz 1920z	23/06	Strong	4m28s	PLdn	TUE
12163kHz 1930z	23/06	Very strong	4m28s	PLdn	TUE
11163kHz 1940z	23/06	Very strong	4m28s	PLdn	TUE
10463kHz 1950z	23/06	Very strong	4m28s	PLdn	TUE
15863kHz 1900z	28/06	NRH		PLdn	SUN
14963kHz 1910z	28/06	Weak	4m28s	PLdn	SUN
13963kHz 1920z	28/06	Strong	4m28s	PLdn	SUN
12163kHz 1930z	28/06	Fair	4m28s	PLdn	SUN
11163kHz 1940z	28/06	Strong	4m28s	PLdn	SUN
10463kHz 1950z	28/06	Strong	4m28s	PLdn	SUN
15863kHz 1900z	30/06	Fair	4m28s	PLdn	TUE
14963kHz 1910z	30/06	Fair, QRM3/4	4m28s	PLdn	TUE
13963kHz 1920z	30/06	Fair	4m28s	PLdn	TUE
12163kHz 1930z	30/06	Fair	4m28s	PLdn	TUE
11163kHz 1940z	30/06	Very strong	4m28s	PLdn	TUE
10463kHz 1950z	30/06	Very strong	4m28s	PLdn	TUE

**MON/SAT**



**XPB1 13929kHz 1240z 16/05 Note bands of QRM**

16329kHz 1200z	16/05	NRH		PLdn	SAT
15929kHz 1210z	16/05	NRH		PLdn	SAT
14829kHz 1220z	16/05	NRH		PLdn	SAT
14429kHz 1230z	16/05	Weak, QSB4	4m28s lg	PLdn	SAT
13929kHz 1240z	16/05	Strong, LocalQRM3	4m28s lg	PLdn	SAT
13529kHz 1250z	16/05	Strong, LocalQRM3	4m28s lg	PLdn	SAT



**13929kHz 1240z 18/05 1m40z**

16329kHz 1200z	18/05	NRH		PLdn	MON
15929kHz 1210z	18/05	NRH		PLdn	MON
14829kHz 1220z	18/05	Unworkable		PLdn	MON
14429kHz 1230z	18/05	Weak, QSB2	1m40s lg	PLdn	MON
13929kHz 1240z	18/05	Strong	1m40s lg	PLdn	MON
13529kHz 1250z	18/05	Strong, LocalQRM2	1m40s lg	PLdn	MON
16329kHz 1200z	23/05	NRH		PLdn	SAT
15929kHz 1210z	23/05	NRH		PLdn	SAT
14829kHz 1220z	23/05	Unworkable		PLdn	SAT
14429kHz 1230z	23/05	Weak, QSB3	1m40s lg	PLdn	SAT
13929kHz 1240z	23/05	Weak, QSB3	1m40s lg	PLdn	SAT
13529kHz 1250z	23/05	Fair 1kHz toneQRM2	1m40s lg	PLdn	SAT
16329kHz 1200z	25/05	NRH		PLdn	MON
15929kHz 1210z	25/05	NRH		PLdn	MON
14829kHz 1220z	25/05	NRH		PLdn	MON
14429kHz 1230z	25/05	Unworkable		PLdn	MON
13929kHz 1240z	25/05	Unworkable		PLdn	MON
13529kHz 1250z	25/05	Unworkable	4m25s lg?	PLdn	MON
16329kHz 1200z	30/05	NRH		PLdn	SAT
15929kHz 1210z	30/05	NRH		PLdn	SAT
14829kHz 1220z	30/05	NRH		PLdn	SAT
14429kHz 1230z	30/05	Unworkable		PLdn	SAT
13929kHz 1240z	30/05	Unworkable		PLdn	SAT
13529kHz 1250z	30/05	Weak	4m28s	PLdn	SAT
15876kHz 1200z	06/06	NRH		PLdn	SAT
14876kHz 1210z	06/06	NRH		PLdn	SAT
14376kHz 1220z	06/06	Unworkable		PLdn	SAT
13976kHz 1230z	06/06	Unworkable		PLdn	SAT
13376kHz 1240z	06/06	Unworkable		PLdn	SAT
12176kHz 1250z	06/06	Weak, LocalQRM3	1m40s	PLdn	SAT
15876kHz 1200z	08/06	NRH		PLdn	MON
14876kHz 1210z	08/06	NRH		PLdn	MON
14376kHz 1220z	08/06	Unworkable		PLdn	MON
13976kHz 1230z	08/06	Unworkable		PLdn	MON
13376kHz 1240z	08/06	Weak	4m28s	PLdn	MON
12176kHz 1250z	08/06	Weak, VDSLQRM3	4m28s	PLdn	MON
15876kHz 1200z	13/06	NRH		PLdn	SAT
14876kHz 1210z	13/06	NRH		PLdn	SAT
14376kHz 1220z	13/06	NRH		PLdn	SAT
13976kHz 1230z	13/06	NRH		PLdn	SAT
13376kHz 1240z	13/06	NRH		PLdn	SAT
12176kHz 1250z	13/06	Unworkable		PLdn	SAT
15/06 Not Monitored					
15876kHz 1200z	20/06	Weak	1m40s	PLdn	SAT
14876kHz 1210z	20/06	Weak	1m40s	PLdn	SAT
14376kHz 1220z	20/06	Weak	1m40s	PLdn	SAT
13976kHz 1230z	20/06	Weak	1m40s	PLdn	SAT

13376kHz 1240z	20/06	Weak	1m40s	PLdn	SAT
12176kHz 1250z	20/06	Weak	1m40s	PLdn	SAT
15876kHz 1200z	22/06	NRH		PLdn	MON
14876kHz 1210z	22/06	NRH		PLdn	MON
14376kHz 1220z	22/06	Unworkable		PLdn	MON
13976kHz 1230z	22/06	Weak	4m28s	PLdn	MON
13376kHz 1240z	22/06	Weak	4m28s	PLdn	MON
12176kHz 1250z	22/06	Weak	4m28s	PLdn	MON
15876kHz 1200z	27/06	NRH		PLdn	SAT
14876kHz 1210z	27/06	Unworkable		PLdn	SAT
14376kHz 1220z	27/06	Weak, QSB5		PLdn	SAT
13976kHz 1230z	27/06	NRH, QRM3		PLdn	SAT
13376kHz 1240z	27/06	Weak, QSB4/5		PLdn	SAT
12176kHz 1250z	27/06	Weak, QRM3/4		PLdn	SAT
15876kHz 1200z	29/06	Unworkable		PLdn	MON
14876kHz 1210z	29/06	NRH		PLdn	MON
14376kHz 1220z	29/06	Unworkable, series of 1kHz tones 1s long sent during transmission		PLdn	MON
13976kHz 1230z	29/06	Weak, QRM3/4		PLdn	MON
13376kHz 1240z	29/06	Weak		PLdn	MON
12176kHz 1250z	29/06	Weak	1m40s	PLdn	MON

## Tones, Hybrids and FSK

### X06 Mazielka (1c) logs section

Hello all,

This time we have a lot of « Aussi » logs, cause we have a new member, Dave from Australia, who is very busy in logging X06. But also the others were more active. Here is the section :

<u>Date</u>	<u>Day</u>	<u>UTC</u>	<u>Freq</u>	<u>Scale</u>	<u>Monitor</u>	<u>Comments</u>
20200505	Tue	1957	13376	1--6--	LU5EMM	Fair X06b before XPA2
20200513	Wed	1753	14372	1--6--	Ary/NL	X06b before E07
20200515	Fri	0844-0847	11030	324615	Dave/AU	Alert 6 (TX to Madrid, G189, SDR) 1
20200515	Fri	0854-0859	14570	324615	Dave	6.2
20200515	Fri	0857-0859	14517	324615	Dave	6.3: harmonic
20200515	Fri	0909-0914	16135	324615	Dave	6.4
20200515	Fri	0909-0914	16219	324615	Dave	6.5
20200515	Fri	0916-0940	13556	324615	Dave	6.6
20200516	Sat	1039/1055	13529	1--6--	Ary	X06b before XPB1
20200516	Sat	1043/1055	14429	1--6--	Ary	X06b before XPB1
20200516	Sat	1129	10276	1--6--	Ary	X06b before E07
20200516	Sat	1130	11576	1--6--	Ary	X06b before E07
20200516	Sat	1131	12176	1--6--	Ary	X06b before E07
20200516	Sat	1134/1135	10276	1--6--	Ary	X06b before E07
20200516	Sat	1137	11576	1--6--	Ary	X06b before E07
20200516	Sat	1138/1139	11576	1--6--	Ary	X06b before E07
20200516	Sat	1140/1141	12176	1--6--	Ary	X06b before E07
20200516	Sat	1145/1146	12176	1--6--	Ary	X06b before E07
20200516	Sat	1150	11576	1--6--	Ary	X06b before E07
20200516	Sat	1153/1154	12176	1--6--	Ary	X06b before E07
20200517	Sun	0816-0822	14934	351264	Dave	TX to Abu Dhabi, G201 (SDR)
20200517	Sun	1954	13376	1--6--	LU5EMM	Fair X06b before XPA2
20200517	Sun	1958	13376	1--6--	LU5EMM	Fair X06b before XPA2
20200517	Sun	2001	13376	1--6--	LU5EMM	Fair X06b before XPA2
20200518	Mon	0534	12100	1--6--	Dave	X06b, SDR
20200518	Mon	0653	11638	1--6--	Dave	X06b, SDR
20200518	Mon	0728	12133	263514	Dave	R (SDR)
20200518	Mon	0814-0816	12199	532614	Ary, Dave	I. p., TX to Paris, G147
20200518	Mon	0919	14570	324615	Dave	TX to Madrid, G421 (new group), SDR
20200519	Tue	0802	12153	1--6--	Dave	X06b, SDR
20200521	Thu	0710-0716	16276	314265	Dave	TX to Antananarivo, G178 (SDR)
20200521	Tue	0754	12195	1--6--	Dave	X06b, SDR
20200522	Fri	0827-0829	12177	356412	Dave	TX to Berlin, G271 (SDR)
20200525	Mon	0715-0723	13940	156234	Dave	Alert 2 (TX to Kampala, G203, SDR)1

20200525	Mon	0825-0832	17475	156234	Dave	2.2, SDR
20200525	Mon	1300-1306	12177	364152	Dave	TX to New Delhi, G73 (SDR)
20200526	Tue	0808-0812	13420	534216	Dave	TX to Baghdad, G232 (SDR)
20200527	Wed	0729	17444	4355621	Dave	TX to Maputo, G244 (SDR)
20200527	Wed	0903-0907	16116	123465	Dave	TX to Tunis, G90 (SDR)
20200527	Wed	1159	18660	621543	Dave	TX to Lisbon, G248 (SDR)
20200528	Thu	0648	13994	1--6--	Dave	X06b before XPA2 (SDR)
20200602	Tue	0838-0851	13401	154263	Dave	TX to Rome, G7 (SDR)
20200602	Tue	1149	16188	325614	Dave	TX to Nairobi, G392 (SDR)
20200603	Wed	1231-1236	16103	231654	Dave	TX to Abuja, G422 (new group) (SDR)
20200604	Thu	0950-0954	16103	645321	Dave	TX to Ho Chi Minh City, G410 (SDR)
20200605	Fri	0839-0846	13547	625413	Dave	TX to Tel Aviv, G56 (SDR)
20200607	Sun	0502	10317	1--6--	Ary	X06b before E07
20200607	Sun	0650-0652	13481	452163	Dave	TX to Kabul, G66 (SDR)
20200608	Mon	0825-0843	17475	156234	Dave	Alert 2 (TX to Kampala, G68, SDR) 1
20200608	Mon	0843	10373	431625	Dave	TX to Warsaw, G75 (SDR)
20200608	Mon	0847-0858	13940	156234	Dave	2.2
20200608	Mon	0938-0943	13517	463125	Dave	TX to Rabat, G77 (SDR)
20200608	Mon	1255-1258	12176	364152	Dave	TX to New Delhi, G73 (SDR) (1)
20200610	Wed	0935	13441	?	Dave	2)
20200610	Wed	1104-1107	15878	621543	Dave	TX to Lisbon, G102 (SDR)
20200613	Sat	1041/1058	12176	1--6--	Ary	X06b before E07
20200613	Sat	1113/1321	12176	1--6--	Ary	X06b again before E07
20200613	Sat	1133/1136	12176	1--6--	Ary	X06b again before E07
20200614	Sun	0442/0452	10317	1--6--	Dave	X06b before E07 (SDR)
20200614	Sun	0453/0507	11117	1--6--	Dave	X06b before E07 (SDR)
20200614	Sun	1120-1140	11570	261453	Dave	TX to Cairo, G138 (SDR) (3)
20200617	Wed	0617/0622	12148	1--6--	Dave	X06b before XPA2
20200618	Thu	0803	15980	1--6--	Dave	X06b before XPA2? (4)
20200618	Thu	0940-0946	16103	645321	Dave	TX to Ho Chi Minh City, G417 (SDR)
20200618	Thu	1318	19405	352416	Dave	TX to Dar es Salaam, G179 (SDR)
20200621	Sun	0657-0659	13481	452163	Dave	TX to Kabul, G403 (SDR)
20200621	Sun	2005/2011	13427	1--6--	LU5EMM	Fair X06b before XPA2
20200621	Sun	2008	10827	1--6--	LU5EMM	Fair X06b before XPA2
20200622	Mon	0853-0857	13940	156234	Dave	TX to Kampala, G203 (SDR)
20200624	Wed	0817/0820	15812	1--6--	Dave	X06b before XPA2 (SDR)
20200625	Thu	0620	11421	1--6--	Dave	X06b before XPA2 (SDR)
20200626	Fri	0826-0831	12207	215346	Ary	TX to Mumbai, i. p., G268
20200627	Sat	1105/1111	15876	1--6--	Dave	X06b before XPB (SDR)
20200627	Sat	1109	14376	1--6--	Dave	X06b before XPB (SDR)
20200627	Sat	1110	14876	1--6--	Dave	X06b before XPB (SDR)
20200627	Sat	1112	12176	1--6--	Dave	X06b before XPB (SDR)
20200627	Sat	1113	13376	1--6--	Dave	X06b before XPB (SDR)
20200627	Sat	1114	13976	1--6--	Dave	X06b before XPB (SDR)
20200627	Sat	1115	14376	1--6--	Dave	X06b before XPB(5) (SDR)
20200627	Sat	1116	15876	1--6--	Dave	X06b before XPB (SDR)
20200627	Sat	1216	10276	1--6--	Dave	X06b before E07 (SDR)
20200627	Sat	1217/1219	11576	1--6--	Dave	X06b before E07 (SDR)
20200627	Sat	1219/1220	12176	1--6--	Dave	X06b before E07 (SDR)
20200627	Sat	1220	10276	1--6--	Dave	X06b before E07 (SDR)
20200627	Sat	1221	11576	1--6--	Dave	X06b before E07 (SDR)
20200627	Sat	1222	12176	1--6--	Dave	X06b before E07 (SDR)
20200627	Sat	1223	10276	1--6--	Dave	X06b before E07 (SDR)
20200628	Sun	1128-1132	15710	Dave		TX to Cairo, G285 (SDR)

- 1) Part of sequence transmitted on top of XPB signal on same frequency
- 2) Unknown sequence logged by other user on Twente chatbox (Prague frequency)
- 3) Break between 1126 and 1129 UTC
- 4) Maybe before XPA2 scheduled on 15982 kHz
- 5) Repeat after some secs

Many thanks especially to Dave/AU, but also to the other contributors as usual. Please stay healthy!

Till the next EN I say good-bye

Jochen Schäfer, Numbers-, X06 Database and Teamkopf

*Thanks Jochen; stirring job as ever!*

# HM01

## May 2020

10715kHz2200z	03/05 01441 68532 35731 30038 48409 70208 QSA2	DanAR	SUN
10715kHz2200z	10/05 01441 68532 35731 30038 48409 70208 QSA2 QRM1	DanAR	SUN
10715kHz2200z	24/05 01441 68532 35731 30038 48409 70208 QSA2	DanAR	SUN
10715kHz2200z	31/05 (01441 68532 35731 30038 48409 70208 QSA2- weak audio-	DanAR	SUN
11530kHz1659z	21/05 1 minute early. Very good signal	SR	SUN
16180kHz2100z	16/05 01441 68532 35731 30038 48409 70208 QSA2 QRM1	DanAR	SAT
16180kHz2100z	23/05 01441 68532 35731 30038 48409 70208 QSA2 QRM1	DanAR	SAT
16180kHz2100z	30/05 01441 68532 35731 30038 48409 70208 QSA2 QRM1	DanAR	SAT
17480kHz2200z	16/05 01441 68532 35731 30038 48409 70208 QSA3 QRM1	DanAR	SAT
17480kHz2200z	23/05 01441 68532 35731 30038 48409 70208 QSA3 QRM1	DanAR	SAT
17480kHz2200z	30/05 01441 68532 35731 30038 48409 70208 QSA2 QRM1	DanAR	SAT

## June 2020

10715kHz2200z	07/06 (01441 68532 35731 30038 48409 70208) QSA1	DanAR	SUN
10715kHz2200z	14/06 (01441 68532 35731 30038 48409 70208) QSA2	DanAR	SUN
10715kHz2200z	21/06 (01441 68532 35731 30038 48409 70208) QSA2	DanAR	SUN
11635kHz2100z	22/06 (01441 68532 35731 30038 48409 70208) QSA1	DanAR	MON
11635kHz1800z	24/06 (01441 68532 35731 30038 48409 70208) QRM from BC Voice of Korea	Weak	WED
11635kHz2100z	26/06 (01441 68532 35731 30038 48409 70208) QSA2	DanAR	FRI
16180kHz2100z	23/06 (01441 68532 35731 30038 48409 70208) QSA2	DanAR	TUE
16180kHz2100z	25/06 (01441 68532 35731 30038 48409 70208) QSA2	DanAR	THU
17480kHz2200z	06/06 (01441 68532 35731 30038 48409 70208) QSA2	DanAR	SAT
17480kHz2200z	13/06 (01441 68532 35731 30038 48409 70208) QSA2	DanAR	SAT
17480kHz2200z	20/06 (01441 68532 35731 30038 48409 70208) QSA1	DanAR	SAT

# Gizza Job .....

In the event of NO JOBS! we present HJH's take on wartime broadcasting:

## Radio Caledonia (or See You Jimmy AM!)

If anyone would ask most of us who the WW 2 radio broadcaster who first springs to mind, my money would be on William Joyce, aka Lord Haw-Haw. As we know, he was broadcasting on behalf of the German war machine for the duration of WW2, finally signing off at Radio Hamburg at war's end. Well, there were, it seems more of these "Black" propaganda stations about than we know about. The station mentioned in the title being but one. It was very much a one man band, (no pun intended) and was sponsored by the German Ministry of Propaganda, but was run and presented by a man named Donald Alexander Fraser Grant, who was a Scottish/ British national. It started operating in 1940, and operated on the frequency of 42.86 meters on short wave. It sent out one programme daily, and this was of only 30 minutes duration. Hardly comparable to William Joyce 's output, which had high powered transmitters sending on the medium wave, and thus likely to reach a far greater audience. As for programme content, it did not seem comparable to Lord Haw Haws output, which was obviously aimed at destroying the morale of the British population. As such, that of Grant contained accurate information as to locations and results of bombing raids, and other intelligence calculated to damage the British morale. Grant's output, however, dealt more with stocks, shares , the effect of war on the populations savings, and the hardships imposed by such restrictions as censorship and other Emergency Powers legislation, although low defenders morale and bomb raid effects were mentioned. So who was this wartime equivalent to Rab C Nesbitt? (For this author's money, one of the finest social commentators of the 20<sup>th</sup> Century!)

Grant was born in 1907 at Alness, Easter Ross. He became a Fascist sympathiser in his early teenage years, possibly as a result of attending meetings of the Union of Fascists at the Banbridge estate at Argay, Scotland, which meetings William Joyce, aka Lord Haw Haw, was known to attend. Thus it is possible that Grant met this man. A family friend says that it was at this time Grants father banished him from the family home. Living and working in England in 1934 he became actively involved in the fascist movement. Here is a quote from an interrogation with Grant during 1946:"I had taken the average interest in politics and was particularly interested in social welfare. I had the desire to see England a still better place for her people to live in, and, being not entirely satisfied with the achievements of the political parties at that time, I became attracted to the Fascist movement." (Taken from an article by Gavin Bowd, Perspectives 46, with whom copyright remains and is acknowledged.) It was at this time that he began to receive Nazi party propaganda from Germany.

By now he was a member of the Imperial League of Fascists and had begun to correspond with H.R. Hoffman of the Foreign Propaganda Department in Munich. He expressed a wish to visit Germany, and became a member of the Anglo-German Link. This organisation promoted pen friends and student and other foreign exchanges. In 1938 he acted as host to a German girl from Magdeburg. (No, her name was NOT Annie,I checked! Author.) A year later, in 1939, (you remember that one guys, the second world war started!) Grant decided to go to Germany. Despite post war suspicions by MI5 that he was, at that time, (i.e. 1938/9) actively engaged in espionage on behalf of Germany he would, in his defence, claim that, despite the threat of war being known by all, including himself, he hardly considered it likely that Britain would go to war over the question of the invasion of Poland. This, despite it also being common international knowledge, that Britain had a treaty with Poland guaranteeing support in case of invasion. Given that World War One started because of an identical treaty with Belgium , which we likewise honoured, this seems a little hard to believe.



His broadcasting career on behalf of Adolf and Co did not begin well. September 11, 1939 saw him arrested in Germany and imprisoned. The secretary of a NAZI Party Gauleiter, Helena Jirka, intervened on his behalf, for whatever reason, and also arranged an interview for him with the English Section of the radio service in Berlin. The meeting was with Dr. Erich Hetzler, a man described as a fanatical NAZI. He would later claim that he took the job to influence his native Scotland that the war was no concern of the Scottish nation. (The many thousands of Scots who fought and died on behalf of Britain in that war, and all those previously and since, would doubtless disagree, as would their families.) On starting to work for this organisation, he surrendered his British passport, and received a document known as a "Freedom Pass", in the name of Donald Palmer.

The Büro Concordia was a section of the Propaganda Ministry in Berlin which dealt with radio stations transmitting propaganda. In order to do so, it set up clandestine radio stations transmitting propaganda, aimed mainly at Britain. These stations would, according to programme content, and in the style of our very own "German Soldiers Station", purport to be based in Britain (German Soldiers Station would, of course, purport to be based in Germany!). The others were (1) "New British Broadcasting Station (NBBS), and (2) Workers Challenge or WC. (Again, no pun intended!) Known as "Radio Caledonia-The Voice Of Scotland," it began transmitting on 27 June 1940, for a half hour daily. Its target audience was the workers in the shipyards of Clydeside. (Authors Note: Without the help of these men, that war would have been lost quite quickly.) He would later tell his interrogators that his programme content consisted of aims and ideas concerning economic improvement for his audience. However, he said that Hetzler and other senior figures in the Propaganda Ministry, would interfere and alter his script, which he would then read out on air. This programme content cannot be verified, as no recordings survive, and no listeners can be traced who can verify or deny this content.

The life of this station was comparatively short, being terminated after 2 years. Grant says that he begged Hetzler to end the station as he, (Grant) felt it was having no good effect. (Got that right, Jimmy!) In August 1942, the station made its last broadcast. Following this, Grant was employed in the Archives of the Propaganda Ministry as an administrator. He was employed chiefly on reading British newspapers and scouring them for information suitable for broadcast scripts on either NBBS or Workers Challenge. (Lord Haw Haw.) He also told his interrogators that he occasionally wrote articles for the scripts to be transmitted on either NBBS or WC. He said that he did this unwillingly and frequently used the excuse of having too many English newspapers to read to devote much time to any other tasks. In April 1945, whilst recovering from an attack of bronchitis, he managed to escape. He did, however, tell his interrogators that he undertook the work willingly, and of his own free will.

His activities were disclosed to the Intelligence Services initially by a Major Perfect of the Intelligence Service, who, following a mail intercept from Grant to his mother, in which he wrote that he was well, alerted the Ross and Cromarty Police who investigated Grant and discovered his NAZI leanings. Unfortunately, the letter being postmarked "Hanover" meant that, post war, he would NOT be so well! In September 1944, an escaped British POW further alerted the Intelligence Services to the activities of Grant, along with other British renegade POWs with whom he, the escapee, had had dealings during compulsory work at NBBS. Post war, much information was gathered on Grant and other renegade broadcasters from British POWs and other sources.

One source, a Pilot Officer Freeman, who had been recruited to work on "Germany Calling," described Palmer, and his fellow travellers involved in broadcasting in support of the German cause, as follows: "This NBBS had the finest collection of poor type Englishmen one could wish to meet, but in passing I should like to record that one, Palmer, was a sincere man. He was deluded and knew it, but had the courage not to say it, he was sincere in his basic beliefs and managed to avoid becoming a hireling in the sense the other men..."

Another POW who became involved in Third Reich Propaganda broadcasting, a member of the Welsh Guards, named William Griffiths, described Grant as follows: "At first he had a station of his own solely for Scotch (sic) listeners. He ran the station himself, but I do not know the name of it. He wrote and broadcast his own work. Afterwards, in the summer of 1942, when the station closed down, he was employed on reading newspapers, and cutting out pieces for reference and propaganda. He was very anti-Jewish." (All above culled from post war Intelligence Services interrogation of collaborators, and quoted from 'Tartan Treason' Gavin Bowd, Perspectives 46, with whom copyright remains and is acknowledged.)

Post war MI5 had, what could today euphemistically be described as a hit list, but in those days went under the title of "Civilian Renegades Warning List". Grant was number 22 on this list and evaded capture for some time, finally surrendering himself to a British Intelligence officer based in Baden-Baden on October 31, 1946. In exchange for a meal and some cigarettes he told his interrogators all. Major General Lockhead, the CO of the Intelligence Division, submitted a report to MI5 on Grant and his activities. The report must have been more than favourable, as evidenced by Grants trial, and on February 6, 1947, he was sentenced to 6 months imprisonment. Far more favourable than the "suspended sentence" imposed on William Joyce, aka Lord Haw-Haw, who was hanged on January 3, 1946.

He served his term and, on release, returned to his parents home in Scotland. However, his neighbours hatred against him was such that he was forced to leave home again, and he went to live in South Africa. He later returned to UK, and died in London in the mid-1980s.

HJH May 2020.

[Thanks as ever Gary]

A quick piece of news that those of us of a certain age will read, perhaps with some remembrance [Thanks to the Daily Mail]

## **He was the world's most infamous mercenary, who once took on Che Guevara and inspired his own film... here's the story of Mad Mike, the 'wild goose' who crashed to earth**

By [Stephen Robinson For The Daily Mail](#)

<https://www.dailymail.co.uk/news/article-7963181/Heres-story-Mad-Mike-wild-goose-crashed-earth.html>

Published: 00:21, 4 February 2020 | Updated: 01:40, 4 February 2020

The local radio station was whipping the Communist rebels into a blood frenzy: 'Sharpen your knives! Sharpen your machetes! Sharpen your spears! If the paras drop from the sky, kill the foreigners. Do not wait for orders. You have your orders now: kill, kill, kill!' The rebels held the Congolese town of Stanleyville and were steeling themselves for an attack by a force consisting of Belgian paratroopers and an army of mercenaries led by a former British Army major known as 'Mad Mike' Hoare.

It was 1964 and at the first sight of the Belgian planes — Belgium was the Congo's former colonial power — the Simba rebels herded their hostages into the street and cut loose with automatic weapons, killing some two dozen men, women and children and wounding more than 50 others. But the paras and Mad Mike's men soon prevailed over the beleaguered rebels — and the Congolese army took their revenge on the Communists.



When 'Mad Mike' Hoare (left) was 64, his days as a 'dog of war' were behind him. But he couldn't resist one last adventure

'I never saw such a bloodbath in my life,' Belgian commander Colonel Charles Laurent said later. 'No prisoners were taken. They [the rebels] were shot up, cut up or beaten to death.'

Meanwhile, Mad Mike's 'mercs' (as they are known in the trade) were taking their own pound of flesh. Hoare turned a blind eye as his men smashed shop windows, drank hotel liquor stores dry, used dynamite and acetylene torches on bank safes and even released lions from the city zoo into the streets. 'I know my men looted, but with the atrocities occurring all around me... I did not regard it as a shooting matter,' he said later. 'Not after what I'd seen.'

But it is what he and his men — known as the Wild Geese, after 18th-century Irish mercenaries — did next that made him famous.

Over the next two days, his mercenaries rescued more than 1,800 Americans and Europeans and 400 Congolese from around the city. 'Taking Stanleyville was the greatest achievement of the Wild Geese. There is only so much 300 men can do, but here we were, part of a very big push and clearing the rebels out of Stan was a major victory for our side.'



Richard Burton (right) starred as Colonel Allen Faulkner, a thinly veiled version of Hoare, in adventure movie *The Wild Geese* alongside Roger Moore (left). Centre: Hoare accepted an invitation to act as 'technical adviser' to the film's class

An English-educated son of an Irishman, his notoriety was reinforced in 1978, when Richard Burton starred as Colonel Allen Faulkner, a thinly veiled version of Hoare, in adventure movie *The Wild Geese*. Hoare himself accepted an invitation to act as 'technical adviser' to the film.

If his career as a soldier of fortune had ended there, Hoare might have gone down in history as a swashbuckling hero. But Mad Mike, who has died at the age of 100 in a nursing home in Durban, South Africa, couldn't resist one last adventure.

His status as the most celebrated mercenary of them all was well established by the time he was approached in 1981 by associates of a former president of the Seychelles who had been overthrown by a fiery young socialist, Albert René.

Hoare was retired, tending his fruit trees at the Old Vicarage, his suburban bungalow in South Africa. The father of five children, he was happily married to his second wife Phyllis, a former air hostess.

He was 64 and his days as a 'dog of war' were long behind him, yet he took up the challenge.

The wizened, white-haired old soldier pictured himself becoming a hero in London and Washington if he could succeed in overthrowing a renegade Leftist who was moving his island nation firmly into the Soviet orbit.

Hoare regarded any man who fought under a socialist banner as likely to be inferior and to lack moral fibre. So he thought a force of some 200 crack European 'mercs' would comfortably overwhelm René's regime.

The problem was, the coup backers turned out to have exaggerated their financial firepower, so the mercenary force had to be drastically slimmed down. A press photographer was appointed Hoare's second-in-command, and the invasion force dwindled to just 46 men.

There was no money to transport weapons in by boat, so Hoare and his gang were reduced to taking the guns they had cadged from South African army officers as hand luggage on a flight on Royal Swazi airlines, booked via a budget travel agency.

Inevitably, and much to Hoare's chagrin, it later became known as 'the package holiday coup'.

The mercs' flimsy cover was that they were part of a charitable drinking club of former rugby players, known as Ye Ancient Order Of Froth Blowers (which was, in fact, a genuine English charitable association).

On the flight to Mahé, capital of the Seychelles, several of the gang overacted their boozy roles, so by the time they landed they were obviously drunk and military discipline had evaporated.

One of them had an AK-47 assault rifle poking out of his luggage, which was spotted by customs officers.

The mercenary panicked when challenged, and a firefight began in the arrivals hall as the other Froth Blowers struggled to assemble their weapons and return fire.



Hoare (pictured in the 1960s) was sentenced to ten years in prison but quietly released after three years, and departed on a long pilgrimage to Lourdes"

One of them was shot dead by 'friendly fire', and two men tried to secure the control tower but were repulsed.

Amazingly, Hoare got through to President René by telephone from the terminal during a six-hour stand-off. There was some negotiation about terms of a surrender, but in the end Hoare and his men hijacked an Air India plane which had recently landed on the island, and ordered the pilot to fly them home to Durban. Besides the one man dead, five men were left behind and later hideously tortured before being sent back to South Africa.

For any 'dog of war' there is nothing so humiliating as a coup that goes disastrously wrong, particularly when fellow 'mercs' are left behind to be tortured. South Africa's apartheid government, which had given Hoare a tacit nod and a wink of approval for the coup, was forced by diplomatic pressure to mount a show trial of the mercenary leaders for the hijacking of the airliner.

Hoare was sentenced to ten years in prison but quietly released after three years, and departed on a long pilgrimage to Lourdes.

His final act of attempted regime change may have ended in ignominy but there is no doubt he was a very brave man, even if his own justification for his actions could be confused and self-serving.

He had the good fortune, as an Irishman, to have been born on St Patrick's Day, in India, where his father was in the colonial service.

As a boy at school in England, he dreamt of military service but his parents pushed him into accountancy. When war broke out in 1939, he regarded it as the happiest day of his life and joined the London Irish Rifles.



Hoare was not blind to the importance of good public relations in his dubious line of work, but he was not personally avaricious and would be enraged when his men crossed the line into the depravity he believed he was fighting"

Later, while serving in the Royal Armoured Corps, he was sent to India, seeing action at the battle of Kohima, and later to Burma.

After the war, like many restless ex-servicemen, he felt stifled by life in London, so he moved to South Africa to work as a chartered accountant. Hoare's career as a mercenary developed quite by chance when, in 1961, he was introduced to the Congolese politician Moïse Tshombe.

Three years later, Tshombe recruited him to crush the Simba rebellion, a surrogate Cold War conflict which had drawn in Cuban forces led in part by Che Guevara. Against all odds, Hoare's band of European and African mercenaries, known as 5 Commando, saw off the Communist-backed forces and became globally famous.

In later life, Hoare would boast, only slightly in jest, that he was one of the few men to have outwitted Che Guevara on a battlefield.

Hoare disliked the term mercenary and imposed strict discipline on his men, which he regarded as essential for fighting in central Africa.

Deep in the bush, his men were expected to remain clean-shaven and with short hair. The Catholicism of Hoare's youth was reflected in his insistence on Sunday church parade.

Some regarded 'Mad Mike' just as he saw himself — as a defender of innocence and rectitude against the forces of barbarism. It is certainly true that capture by certain tribal factions often meant a hideous death, preceded by torture and dismemberment.

A Belgian peacekeeping soldier had his legs cut off below the knees and his arms and legs skinned before decapitation. And in one settlement, after 22 men, women and children had been massacred, their hands were chopped off, dried and attached to the hats of the rebel leaders as trophies.

The Congo's excesses far exceeded those of the Mau Mau in Kenya, and were a forerunner of the Rwanda genocide.

Hoare was not blind to the importance of good public relations in his dubious line of work, but he was not personally avaricious and would be enraged when his men crossed the line into the depravity he believed he was fighting.

When one of his men raped a Congolese girl, Hoare opted to punish the offender — an aspiring professional footballer — by shooting off the man's big toes. He liked to claim that his moniker, 'Colonel Mad Mike', was slapped on him by Communist propaganda outlets in Eastern Europe that disapproved of his counter-revolutionary exploits, but in truth it was the work of Fleet Street's old Africa hands who reported on his exploits in the 1960s.

He liked to drink and exchange tall stories with the band of journalists who then covered African coups in meticulous, if not always strictly accurate, detail.

Mad Mike Hoare was a figure of his time, a type of larger-than-life white man bestriding Africa's theatres of war that is now virtually extinct. Perhaps the most surprising thing of all is that his life should end so routinely, in a nursing home.

<https://www.dailymail.co.uk/news/article-7963181/Heres-story-Mad-Mike-wild-goose-crashed-earth.html>

## PoSW's Items of Interest in the Media:-

Not a lot, to be honest, mainly because I have given up on following the main-stream media during this corona virus crisis avoiding radio and television news as far as possible except for a couple of minutes with the 7 am news on BBC Radio 4 and an equally short look at the local news on ITV Anglia at 6 pm.

Even more avoidance of the broadcast media once the "BLM" grievance-fest got going, my country's history being trashed, statues and monuments being toppled and a supposedly Conservative government doing nothing to prevent it other than to put a wooden box around the statue of Sir Winston Churchill in London while the Prime Minister just carries on with his overgrown public schoolboy act. The most worrying aspect of life in this country is the lack of ability, honesty and integrity of the ruling elites, not one of them has the guts to say enough is enough.

Some of us were waiting for the Prime Minister to instruct the police to put an end to this or, if they were unable or unwilling to do so, send in the army - but we waited in vain. It is just the latest episode in a long story which has been going on for some considerable time. I have been doing a lot of reading during the time of house arrest to which we have all been subjected including George Orwell's *Inside the Whale and Other Essays*, and in one essay, *England, Your England*, there is a paragraph which has a familiar ring to it, "Probably the Battle of Waterloo was won on the playing-fields of Eton, but the opening battles of all subsequent wars have been lost there. One of the dominant facts in English life during the past three-quarters of a century has been the decay of the ability of the ruling class."

Yep, I'd go along with that And this was written in 1941, old George didn't know the half of it; the following year would see the fall of Singapore to the Japanese, another monumental display of incompetence by the elites in charge.

Our two local newspapers stopped publication at the start of lock-down and the last national paper I bought was a copy of *The Times* on 14-May in which there was a piece on the subject of the writer Graham Greene and his involvement in espionage, not too successfully, apparently.

"Graham Greene was a greater novelist than spy" is the headline which says, "One of the least likely British spies in the Second World War once took possession of a large safe in which to hide his code books. Unfortunately he was unable to open it and he had to destroy it. He told MI6 that it had been damaged on the voyage out to West Africa and asked them to send another.

This hapless agent was Graham Greene, among the most celebrated English novelists of the past century. Greene's espionage background gives superficial plausibility to a theory advanced in a new book that he much later returned to the world of smoke and mirrors. Carlos Villar, a professor of literature at the University of La Rioja, suggests that Greene may have used research trips to Spain for his late novel *Monsignor Quixote* (1982) as cover for intelligence gathering.

The implication is that Greene sought information on Spanish politics in the immediate post-Franco era, when the country moved to democracy, and there were links between the IRA and ETA, the Basque terrorist organisation. There is no hard evidence but it is notable that Greene did have a tendency to turn up in political hotspots. They included Indochina as France's colonial war was drawing to a bitter end, Malaya, scene of a communist insurgency, and Latin America, racked by revolt and repression from the 1960s to the 1980s.

Scholars are cautious, however. It is conceivable that Greene retained links with the intelligence world but his left-wing views, for example in support of the Sandinista regime in Nicaragua would have been an unnecessarily elaborate cover. It seems more likely that, as a writer whose themes in such works as *The Quiet American*, *The Heart of the Matter* and *The End of the Affair* included the dilemmas of squalid compromises, Greene found satisfaction in dealing with causes that were themselves morally tainted.

Point to ponder:- "Life is rather like a tin of sardines – we're all of us looking for the key" - Alan Bennett, British playwright.

## The Spectre's News articles

01/05/2020 Hindustan Times

### **Pak spies could use Aarogya Setu-like app to target Indian military personnel, Army issues warning**

Senior Army sources told ANI that Pakistani agencies are using social media accounts with Indian names to target the Indian personnel.

The Indian Army has issued a warning to its personnel against Pakistani agencies' nefarious designs to hack the phones of Indian military personnel through a malicious application similar to the Aarogya Setu app.

"Inimical intelligence agencies have developed a malicious app by the name Aarogya Setu.apk. Such apps were found to be sent by Pakistan-based Pakistani Intelligence Operatives to WhatsApp groups of Indian Army personnel," the Army has stated in its warning.

Senior Army sources told ANI that Pakistani agencies are using social media accounts with Indian names to target the Indian personnel.

"Known Pakistani Intelligence Operative account under the fake name of one 'Anoshka Chopra' also found sending the malicious application to Indian Army personnel," the sources said.

The Army in its warning has asked personnel about the need to be sensitised about the Pakistani spy agencies' designs while downloading the application.

The Army has also told its men and women that the Aarogya Setu application must be downloaded only from the Indian government website (mygov.in) or Android Play Store or iOS Apple Play Store.

All forces personnel have been asked to download the Aarogya Setu application to help in the detection and checking the spread of COVID-19. The application has been developed by government agencies and is being used by almost all government employees.

Recently, Army Chief Gen Manoj Mukund Naravane had stated that while India is busy fighting coronavirus both internally and globally, Pakistan is busy in exporting terrorism in India and other places.

**11/05/2020 CGTN**

### **The U.S. planned COVID-19 espionage accusations against China are irresponsible**

The New York Times reported on Sunday that the Department of Homeland Security and FBI are planning to accuse China of trying to steal America's research into COVID-19 "vaccines, treatment and testing" in the coming days. Titled "U.S. to Accuse China of Trying to Hack Vaccine Data, as Virus Redirects Cyberattacks", the article mentions that these security services will primarily focus on China's alleged cyber-espionage activities in this respect, but they'll also allude to the role that "researchers and students" are suspected of playing as well given the draft document's use of the term "nontraditional actors" which is regarded as their euphemism.

Should these accusations be publicly leveled like The New York Times reported, then it would represent yet another highly irresponsible action by the U.S. in the context of the current COVID-19 crisis. It's already disappointing enough that it's taken to politicizing this pandemic for the purpose of maligning China's international reputation, but it would certainly be a new low if it officially claims that the People's Republic is trying to steal valuable information related to the virus. Even more troubling, it might put the safety of Chinese students and researchers in jeopardy since those still in the U.S. could be discriminated against or worse.

The reason why the U.S. is even reportedly contemplating making such accusations is because they'd conform to the information warfare narrative that its global perception managers are attempting to construct which portrays China as being entirely (and perhaps even criminally) responsible for this pandemic. As the cliched saying goes, "repeat a lie often enough until it becomes the truth", and that seems to be what the U.S. intends to do by making ever more outrageous claims against China. These new allegations are intended to make it seem like China is trying to sabotage the world's efforts against COVID-19, thus making it the enemy of all humanity.

Nothing could be further from the truth, however, since it was China that first alerted the world to this danger through its unprecedentedly transparent response to the original outbreak in Wuhan late last year. It's also dispatched much-needed medical aid to some of its partners such as Italy and Serbia, and has taken the lead in trying to coordinate a global response to this pandemic through the World Health Organization (WHO). China has also taken the principled stand that this virus is a threat to everyone and therefore shouldn't be politicized. Taken together, China has set the global standard for how countries should react to this crisis, unlike the U.S..

Meanwhile, America has done the opposite of China in practically all respects. Not only has there been visible confusion within the Trump Administration itself and between the various levels of the U.S. government over how to respond to COVID-19, but the issue has been completely politicized in both the domestic and international domains. Partisan politics prevail at home, while China-bashing defines its messaging abroad. The U.S. also refuses to participate in multilateral efforts aimed at creating a vaccine against this virus, and it's discontinued its funding of the WHO because that global structure refuses to take its side against China.

Upon comparing these two countries, it's clear to see that it's the U.S. - not China - which objectively has a very serious problem with its international reputation. That might explain the intensity of its information warfare narrative against China since it wants to divert attention from its self-centered response to this crisis. None of the U.S.' prior accusations had any evidence to support them, the same as its reportedly forthcoming ones related to Beijing's COVID-19 espionage efforts don't have any proof either. Rather, they're just mean-spirited attacks being made from a position of desperation after the U.S. realized that it's lost hearts and minds lately.

The more that the U.S. attacks China, the guiltier that it looks. People across the world are starting to realize that America's accusations against China are much more applicable to itself. It's incredulous that the country that's led the international response to this crisis and criticized America's isolationist approach would now want to sabotage the world's efforts at manufacturing a vaccine, but it's much more believable that the U.S. would have an interest in doing precisely that given the spoiler role that it's played since this pandemic started.

**Wired 14/05/2020**

### **The US Says Chinese Hackers Went Too Far During the Covid-19 Crisis**

The FBI and DHS say that Beijing's hacking "jeopardizes" the delivery of much-needed Covid-19 treatment options.

IT'S NO SECRET that the Covid-19 pandemic has created prime conditions for nation-state hacking. Working from home often means less-strict security, which in turn invites digital espionage. But on Wednesday, the United States called out China-backed hackers specifically, accusing them of not just spying but endangering Covid-19 vaccine research.

As the world rushes to contain the pandemic and find a vaccine, researchers and government officials have increasingly warned about a rise in cyberattacks, including among those likely linked to intelligence-gathering. The latter have especially targeted public health institutions like the World Health Organization.

"This crisis is just too important to ignore."

JOHN HULTQUIST, FIREEYE

The race to develop a vaccine is particularly high stakes. While many countries claim they're willing to collaborate internationally throughout the process, it's unsurprising that some nations would turn to espionage to fill the gaps and suss out what researchers might be holding back. But if these operations disrupt or

damage vaccine development, they could violate the norms surrounding espionage. A joint statement by the Federal Bureau of Investigation and the Department of Homeland Security's Cybersecurity and Infrastructure Security Agency accuses China of doing exactly that.

"These actors have been observed attempting to identify and illicitly obtain valuable intellectual property and public health data related to vaccines, treatments, and testing from networks and personnel affiliated with Covid-19-related research," the joint announcement says. "The potential theft of this information jeopardizes the delivery of secure, effective, and efficient treatment options."

The warning gives scant details about how exactly China-linked operations could hinder the delivery of treatments, but it could relate to the potentially distracting and cumbersome precautions organizations must take to shore up their digital defenses.

"If the espionage is throwing off efforts to get to a vaccine, then I'm glad that CISA is calling this out," says Jason Healey, a senior research scholar at Columbia University's School for International and Public Affairs focused on cyberconflict. "But they're not specifically saying here that China is trying to steal this to gain a national security or competitive advantage. If the US is wanting to argue for norms, I look forward to us doing it directly and saying here's where we think the playing field lies, because certainly we're being active in many of these areas as well. I'd expect CIA and NSA are not just sitting on their hands."

International norms of spycraft and espionage are more a collective project than a set of individual rules. Every nation has a security interest in spying and will do so if it can. But there's still generally an unspoken consensus that limits exist on acceptable acts versus those that constitute aggression. Over the past few decades, the rise of digital espionage has given nations much broader potential reach, though, and blurred these already fine lines.

The US has for years struggled to deter Chinese cyber-espionage in particular. A landmark agreement between the two countries in 2015 seemed to slow the pace of assaults on the private sector, but it has since become clear that the accord wasn't a panacea. At this point, the US expects Beijing to perpetrate a certain amount of intelligence-gathering and intellectual property theft but has increasingly condemned those acts publicly, indicted Chinese hackers, and levied sanctions as those efforts escalated. All those tools are meant to deter espionage, although so far with little apparent success.

Desperation caused by the Covid-19 pandemic is a powerful incentive for countries to ignore those implicit checks on hacking.

"The prospects for deterrence are dim, because the stakes are very high," says John Hultquist, the director of intelligence analysis at security firm FireEye. "We're seeing intrusions from several different actors against organizations that are developing treatments: China, Russia, Iran. And we suspect that there are a lot more actors in play. This crisis is just too important to ignore. I don't think it's very likely that anyone is conducting business as usual. I think they are all refocusing their efforts on this problem."

The CISA/FBI warning doesn't say why it calls out China alone, when so many countries are presumably involved in the same activities. But the already fraught relationship between China and the US has been complicated even further by the pandemic. Some US officials, including President Trump, have publicly attempted to blame China for the emergence of Covid-19.

Wednesday's announcement came, though, without coordinated, high-profile condemnations of the behavior from the White House or State Department. This could mean that it's not intended to contribute to the narrative that China is to blame for the pandemic. Or it could simply mean that other agencies haven't decided what further steps they might take, if any.

"Clearly a global pandemic is an existential threat to all nations and a valid target for intelligence teams," Columbia's Healey says. "It must be priority requirements to learn more about the pace of the pandemic and if national leaders—especially but not only China, Russia, and Iran—are giving accurate statistics. But there's an argument that even normally acceptable geopolitical espionage should be highly circumscribed when going after vaccine and related data."

The CISA/FBI announcement indicates that the US government is mulling the parameters of espionage in a pandemic. At an extreme, aggressive hacking against targets developing vaccines or other lifesaving treatments could be interpreted as crossing an invisible line—and could warrant some sort of retaliation.

## **The Register 18/05/2020**

### **Dutch spies helped Britain's GCHQ break Argentine crypto during Falklands War**

Five Eyes-style Euro intel alliance Maximator tipped UK off about Crypto AG machines

Dutch spies operating as a part of a European equivalent of the Five Eyes espionage alliance helped GCHQ break Argentinian codes during the Falklands War, it has been revealed.

Flowing from revelations made in German-language news reports earlier this year that Swiss cipher machine company Crypto AG was owned by the CIA and German counterpart the BND during most of the Cold War, an academic paper has described the Maximator alliance which grew from the Crypto AG compromise.

Authored by Professor Bart Jacobs of Radboud University Nijmegen in the Netherlands, his in-depth article, titled Maximator: European signals intelligence cooperation, from a Dutch perspective shines a light on Cold War security and SIGINT from an oft-ignored perspective, at least in the Anglosphere.

As related by Jacobs, Maximator was founded in 1976 and brought together Denmark, France, Germany, Sweden, and the Netherlands as a northwest European version of the Anglosphere's Five Eyes. The latter comprises Britain, America, Australia, Canada, and New Zealand - what Sir Winston Churchill called the English-speaking nations.

Named after a Bavarian beer brand popular with BND spies at the agency's Munich HQ, Maximator came about in part because of "the emergence of signals intelligence via satellites, which required substantial investment" to forcibly decrypt. None of its members felt able to tackle the subject on its own.

Maximator, GCHQ and the Falklands War

Dutch eavesdropping agency TIVC was one of the key parts of the Maximator alliance, playing a very important role in helping Britain during the 1982 Falklands War. When the Argentine junta invaded the British South Atlantic island on 2 April, Britain assembled a military task force which sailed and flew halfway around the world to expel the invaders and liberate the local population.

Among Britain's means to defeat the Argentinians was good old-fashioned signals intelligence, or SIGINT: in everyday English, breaking the crypto on the Argentine military's communications so their plans and intentions could be read. Such work is in the DNA of GCHQ, which grew out of the Government Code and Cipher School in WWII.

Yet GCHQ didn't have a full insight into the cipher machines the Argentinians were using. At the time, those were supplied by Crypto AG. Unfortunately for the South Americans, the models they had – HC550s and HC570s – included "rigged" algorithms, deliberately undermined "by the BND and the CIA, via their ownership of Crypto AG".



“A directly involved Dutch source states that at that stage a specialist from TIVC travelled to GCHQ and explained how the HC500 Crypto AG devices for Argentinian naval and diplomatic communications worked; subsequent solution of the ciphers was left to GCHQ itself,” said Prof Jacobs, who spoke to multiple former Maximator personnel while writing his paper.

We're reading their comms, said MP at war's outbreak

Yet Argentina figured out that their comms were being eavesdropped upon, which Prof Jacobs attributed to a statement in the House of Commons by then-Labour MP Ted Rowlands, who still sits in the House of Lords as Baron Rowlands to this day. While criticising Conservative Prime Minister Margaret Thatcher on 3 April 1982 – the day after the invasion – Rowlands told the House:

Last night the Secretary of State for Defence asked "How can we read the mind of the enemy?" I shall make a disclosure. As well as trying to read the mind of the enemy, we have been reading its telegrams for many years. I am sure that many sources are available to the Government, and I do not understand how they failed to anticipate some of the dangers that suddenly loomed on the horizon.

At the time no MPs appeared to notice the significance of Rowlands' "disclosure", as the Hansard record shows. Historian Hugh Bicheno, in his 2006 book *Razor's Edge: The Unofficial History of the Falklands War*, excoriated Rowlands, writing that "this was the precise equivalent of publicly announcing, during World War II, that the Allies had broken the Enigma system used by the Nazis."

Yet Prof Jacobs, in his history of the Maximator alliance, speculated that firm corroboration for the Argentinians may have come from a captured British pilot who was shot down while carrying "information that could only have been obtained via compromised communications".

A list of British aircraft lost during the Falklands War reveals a small number of likely candidates. Although the one pilot actually taken prisoner by the Argentinians, then-Flight Lieutenant Jeffrey Glover, said in 2007 he was not interrogated after being fished out of the icy South Atlantic when shot down in May 1982 during a reconnaissance mission, it is possible that other British aircraft shot down over land may have contained maps or other documents that Argentinian forces could have recovered.

The public confirmation of Maximator's existence will continue to puzzle and intrigue historians, researchers and those with an interest in Cold War cryptography and SIGINT for years to come.

[For those who want to read more about British use of SIGINT during the Falklands campaign then I recommend: 'The Silent Listener' by DJ Thorpe who at the time was a Rupert. Now retired from the military he lives in --- Cheltenham [no surprises there].

Thanks for this input Spectre!

# Chart Section Index

1. Prediction Chart

2. M01 Schedule

3. Family III

4. Polytone Chart: XPA1 c, XPA2 m and p

**July 2020**

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Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jul kHz, ID, ...	Aug kHz, ID, ...	Remarks
		x	x				0315		E11	03	8565 25#	8565 25#	since 01/14, last log 05/20
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			x				0430/0450/0510		E07A	01B	7933/ 9133/10233 741	7933/ 9133/10233 741	
				x		x	0435		E11	03	6849 35#	6849 35#	since 04/15, last log 06/20
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x	x	x	x	x	x	x	0500		V13	0	11430	11430	
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	x		x		x		0455		HM01	18	11462	11462	
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			x	x			0500/0600	1/3	E06	01A	13825/15615 679	13540/16115 210	
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		x	x				0530		M01A	14	9129 or 9192 498	9129 or 9192 498	
	x						0530/0550/0610		M12	01B	9317/10484/11552 135	9317/10484/11552 135	
		x	x				0540		M01A	14	7692 536	7692 536	
x		x		x		x	0555		HM01	18	10345	10345	
	x		x		x		0555		HM01	18	14375	14375	
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		x					0600/0610		S06S	01A	15945/16945 438	15945/16945 438	
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	x			x			0630		M01A	14	9447 143/796	9447 143/796	
		x	x				0630		M01A	14	8111 902/536	8111 902/536	
x							0630/0640		S06S	01A	16320/14875 462	16320/14875 462	
x		x					0640		E11	03	15800 94#	15800 94#	since 07/17, last log 06/20
	x		x				0645		E11	03	13424 51#	13424 51#	since 07/09, last log 06/20
x		x		x		x	0655		HM01	18	9330	9330	
	x		x		x		0655		HM01	18	13435	13435	
x			x				0700		S11A	03	9339 47#	9339 47#	since 04/10, last log 06/20 until 09/19 at 1015z
	x			x			0700		E11	03	8680 57#	8680 57#	since 01/12, last log 06/20
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						x	0700		M01	01B	6780 025	6780 025	
	x						0700/0710		S06S	01A	5430/ 6780 452	5430/ 6780 452	
	x			x			0700/0720/0740		E07	01B	15962/17462/18562 945	16246/18446/19246 242	
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						x	0700/0720/0740		V07	01B		<b>search</b>	
x		x					0700/0720/0740		XPA2	01B	x11167/12167/ 13567 <b>search</b>	12152/13552/13952	XPA2p
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Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jul kHz, ID, ...	Aug kHz, ID, ...	Remarks
	x		x				0710/0730/0750		XPA1	01B	10446/11474/12175	10234/11511/12117	XPA1c
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	x						0730/0740		S06S	01A	7365/11655 427	7365/11655 427	
			x				0730/0740		S06S	01A	11535/14977 172	11535/14977 172	
x							0745		E11	03	9610 26#	9610 26#	since 03/14, last log 06/20 2nd transmission Thu 1530z
	x		x				0745		E11	03	14940 22#	14940 22#	since 01/20, last log 06/20
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	x		x		x		0755		HM01	18	11365	11365	
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			x				0800/0810		E17Z	01A	16780/12850/ 217	16780/12850/ 217	
	x						0800/0810		S06S	01A	14373/12935 127	14373/12935 127	
					x		0800/0810	1	S06S	01A	12460/10250 132	12460/10250 132	
				x			0800/0820/0840		E07A	01B	12173/13973/14873 198	12177/13477/14877 148	
				x			0800/0900		M14	01A	4730/ 4650 523	4730/ 4650 523	
				x	x		0805		E11	03	5737 31#	5737 31#	since 07/14, last log 06/20
			x	<b>x</b>			0820		E11	03	4909 43#	4909 43#	since 10/09, last log 06/20
	x	x					0820		E11	03	17378 13#	17378 13#	since 12/18, last log 06/20
x				x			0830		E11	03	12202 18#	12202 18#	since 07/15, last log 06/20
x							0830/0840		S06S	01A	8221/ 9353 764	8221/ 9353 764	
		x					0830/0840		S06S	01A	11565/12560 464	11565/12560 464	
				x			0830/0840		S06S	01A	10290/ 9655 156	10290/ 9655 156	
			x	x			0830/0930		S06	01A	15875/13469 842	16327/13875 842	
	x		x				0845		E11	03	12153 15#	12153 15#	since 07/17, last log 06/20
x	x		x			x	0855		HM01	18	9240	9240	
	x		x		x		0855		HM01	18	11462	11462	
x		x					0900		E11	03	7449 53#	7449 53#	since 10/05, last log 06/20
x							0900/0910		S06S	01A	16380/14835 232	16380/14835 232	
				x			0900/0910		S06S	01A	6844/ 7161 239	6844/ 7161 239	
x	x						0910/0930/0950		XPA2	01B	16296/14981/13953	18059/16093/14874	
			x		x		0910/0930/0950		XPA2	01B	13445/12145/11545	14372/13372/12172	
x				x			0915		S11A	03	5082 48#	5082 48#	since 04/19, last log 06/20
x	x	x	x	x	x	x	0930		M14	01A	16347/14878 617, only 10., (11.), 25., (26)	16347/14878 617, only 10., (11.), 25., (26)	
			x	x			0930		E11	03	6923 27#	6923 27#	since 02/14, last log 06/20
			x				0930/0940		S06S	01A	9255/10325 698	9255/10325 698	
x	x		x			x	0955		HM01	18	9155	9155	
	x		x		x		0955		HM01	18	12180	12180	
	x			x			1000		E11	03	8180 30#	8180 30#	since 11/16, last log 06/20
	x						1000/1010		S06S	01A	4820/ 5660 427	4820/ 5660 427	

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jul kHz, ID, ...	Aug kHz, ID, ...	Remarks
		x					1000/1010		S06S	01A	14580/16020 276	14580/16020 276	
x	x	x	x	x			1015/1025/1035		F01	01A	<b>search</b>	<b>search</b>	
	x			x			1020		S11A	03	. 6977 42#	. 6977 42#	since 02/10, last log 06/20 2nd transmission Thu 1730z
x		x					1045		E11	03	. 8545 69#	. 8545 69#	since 03/18, last log 06/20
		x		x			1100		S11A	03	. 5149 37#	. 5149 37#	since 02/14, last log 06/20
	x						1100/1110		S06S	01A	. 6810/ 7560 265	. 6810/ 7560 265	
	x			x			1100/1120/1140		E07	01B	19252/17452/16252 242	20146/18246/16346 123	
x	x	x	x	x	x	x	1200		V13	0	. 9725	. 9725	
x							1200/1210		S06S	01A	10230/12165 149	10230/12165 149	
			x				1200/1210		S06S	01A	13145/14535 175	13145/14535 175	
x					x		1200/1210/1210 1230/1240/1250		XPB1	01B	<b>search</b>	<b>search</b>	yearly changing frequencies
	x		x				1200/1220/1240		XPA2	01B		13919/14719/16219	
	x	x					1205		E11	03	. 6304 46#	. 6304 46#	since 03/10, last log 06/20
		x	x				1210/1230/1250		M12	01B	13423/12123/11523 415	12178/11578/10578 155	
x	x	x	x	x	x	x	1300		V13	0	. 9725	. 9725	
					x		1300/1320/1340		E07	01B	. 9064/10264/11464 024, <b>search</b>	. 9064/10264/11464 024, <b>search</b>	
	x				x		1345		E11	03	12984 91#	12984 91#	since 10/15, last log 06/20
x		x					1400/1420/1440		M12	01B	15821/13921/12221 174	15983/14683/13383 963	
			x	x			1410/1430/1450		E07	01B	13562/14862/16162 441	13519/14819/15919 288	
					x		1500		M01	14	. 6435 025	. 6435 025	
	x						1500/1510		S06S	01A	. 6766/ 7744 914	. 6766/ 7744 914	
x					x		1500/1520/1540		XPA2	01B	13954/12154/11454	13825/12125/11025	
				x			1510/1530/1550		E07A	01B	12213/11413/10113 241	12213/11413/10113 241	
x				x			1530		E11	03	. 5409 52#	. 5409 52#	since 05/15, last log 06/20
			x				1530		E11	03	10356 26#	10356 26#	since 06/14, last log 06/20 2nd transmission Mon 0745z
x	x	x	x	x	x	x	1555		HM01	18	11435	11435	
	x		x				1600/1620/1640		XPA2	01B	13538/14438/14938	14864/14364/13464	
	x				x		1605		E11	03	. 5371 23#	. 5371 23#	since 11/15, last log 06/20
		x			x		1625		E11	03	. 7863 97#	. 7863 97#	since 02/15, last log 06/20
	x		x				<b>1645</b>		E11	03	14575 33#	14575 33#	since 06/17, last log 06/20 <b>until 05/20 1700z</b>
			x		x		1650		E11	03	12229 92#	12229 92#	since 05/16, last log 06/20
x	x	x	x	x	x	x	1655		HM01	18	11530	11530	
		x			x		1700/1720/1740		E07	01B	12223/11023/10123 201	13397/12197/10697 316	
			x				1700/1720/1740		M12	01B	12162/11566/18711 546	12162/11566/18711 546	
				x			1700/1800	1/3	M14	01A	. 7485/ 6891 382	. 7485/ 6891 382	
		x			x		1705		E11	03	. 4783 39#	. 4783 39#	since 02/14, last log 06/20
		x					1710/1730/1750		M12	01B	12162/11566/10711 546	12162/11566/10711 546	
			x				1730		E11	03	. 8088 41#	. 8088 41#	since 03/10, last log 06/20 2nd transmission Mon 0450z
x					x		1745		E11	03	14410 24#	14410 24#	since 04/18, last log 06/20
x	x	x	x	x	x	x	1755		HM01	18	11635	11635	

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	Jul kHz, ID, ...	Aug kHz, ID, ...	Remarks
	x		x				1800		M01	14	5280 025	5280 025	
			x				1800/1820/1840		M12	01B	12162/11566/10711 546	12162/11566/10711 546	
x							1810		M01B	14	5125, 5735 364	5125, 5735 364	
	x						1820	2/4	M14	01A	6856 163	6856 163	
			x				1830	2/4	G06	01A	6887 842	6887 842	since 05/01, last log 05/20 repeat at Fri 1930Z
			x				1832		M01B	14	5095, 5760 815	5095, 5760 815	
	x			x			1840/1850/1900	1	F01	01A	14829/12214/10932	15854/13543/11126	
		x			x		1850		S11A	03	12457 28#	12457 28#	since 06/17, last log 06/20
x			x				1900		E11	03	7600 64#	7600 64#	since 05/16, last log 06/20
	x					x	1900/1910/1910 1930/1940/1950		XPB1	01B	14644/13444/12144 11044/10344/ 9244 <b>check</b>	14918/13918/12218 11118/10218/ 9118 <b>check</b>	yearly changing frequencies
x		x					1900/1920/1940		E07	01B	16263/14763/13363 273	16147/14647/13447 164	
		x					1900/1920/1940		M12	01B	8047/ 6802/ 5788 463	8047/ 6802/ 5788 463	
				x			1900/2000	1/3	S06	01A		9336/ 7315 452	yearly changing frequencies + id
				x			1902		M01B	14	5075, 5465 336	5075, 5465 336	
				x	x		1910		E11	03	9610 61#	9610 61#	since 04/17, last log 06/20
x							1915		M01B	14	5150, 5475 858	5150, 5475 858	
		x					1920	2/4	M14	01A	5938 417	5938 417	
				x			1930	2/4	G06	01A	5935 218	5935 218	since 04/01, last log 05/20 repeat from Thu 1830Z
					x	x	1930		E11	03	5082 36#	5082 36#	since 03/14, last log 06/20 2nd transmission Thu 1530z

## M01 FREQUENCY LIST

Frequencies may vary by a few kHz

**JAN FEB NOV DEC**

**M01/1**

**197**

DAY	TIME UTC	FREQ kHz
TUE / THU	1800	5320
TUE / THU	2000	4490
SAT	1500	5810
SUN	0700	5465

**MAR APRIL SEPT OCT**

**M01/2**

**463**

DAY	TIME UTC	FREQ kHz
TUE / THU	1800	5475
TUE / THU	2000	5020
SAT	1500	6260
SUN	0700	6510

**MAY JUNE JULY AUG**

**M01/3**

**025**

DAY	TIME UTC	FREQ kHz
TUE / THU	1800	5280
TUE / THU	2000	4905
SAT	1500	6435
SUN	0700	6780

Mon	Tue	Wed	Thu	Fri	Sat	Sun	UTC	wk	Stn	Fam	May kHz, ID, ...	Jun kHz, ID, ...	Jul kHz, ID, ...	Aug kHz, ID, ...	Remarks
	x	x					0315		E11	03	8565 25#	8565 25#	8565 25#	8565 25#	since 01/14, last log 05/20
			x		x		0435		E11	03	6849 35#	6849 35#	6849 35#	6849 35#	since 04/15, last log 06/20
x	x						0450		E11	03	7469 41#	7469 41#	7469 41#	7469 41#	since 02/10, last log 06/20 2nd transmission Thu 1730z
x		x					0510		S11A	03	13537 65#	13537 65#	13537 65#	13537 65#	since 08/19, last log 05/20
x		x					0640		E11	03	15800 94#	15800 94#	15800 94#	15800 94#	since 07/17, last log 06/20
	x		x				0645		E11	03	13424 51#	13424 51#	13424 51#	13424 51#	since 07/09, last log 06/20
x			x				0700		S11A	03	<b>9339</b> 47#	9339 47#	9339 47#	9339 47#	since 04/10, last log 06/20 until 09/19 at 1015z
	x			x			0700		E11	03	8680 57#	8680 57#	8680 57#	8680 57#	since 01/12, last log 06/20
				x	x		0710		E11	03	6480 49#	6480 49#	6480 49#	6480 49#	since 07/15, last log 06/20
	x			x			0715		E11	03	10429 63#	10429 63#	10429 63#	10429 63#	since 02/11, last log 06/20
<b>x</b>	<b>x</b>						<b>0715</b>		<b>S11A</b>	<b>03</b>	<b>15720</b> <b>38#</b>	<b>15720</b> <b>38#</b>	<b>15720</b> <b>38#</b>	<b>15720</b> <b>38#</b>	<b>reactivated 05/20. last log 06/20</b>
x							0745		E11	03	9610 26#	9610 26#	9610 26#	9610 26#	since 03/14, last log 06/20 2nd transmission Thu 1530z
	x		x				0745		E11	03	<b>14940</b> 22#	14940 22#	14940 22#	14940 22#	since 01/20, last log 06/20
		x	x				0745		E11	03	15720 34#	15720 34#	15720 34#	15720 34#	since 06/17, last log 06/20
				x	x		0805		E11	03	5737 31#	5737 31#	5737 31#	5737 31#	since 07/14, last log 06/20
			x	<b>x</b>			0820		E11	03	4909 43#	4909 43#	4909 43#	4909 43#	since 10/09, last log 06/20
x	x						0820		E11	03	17378 13#	17378 13#	17378 13#	17378 13#	since 12/18, last log 06/20
x				x			0830		E11	03	<b>12202</b> 18#	12202 18#	12202 18#	12202 18#	since 07/15, last log 06/20
x		x					0845		E11	03	12153 15#	12153 15#	12153 15#	12153 15#	since 07/17, last log 06/20
x		x					0900		E11	03	7449 53#	7449 53#	7449 53#	7449 53#	since 10/05, last log 06/20
x				x			0915		S11A	03	5082 48#	5082 48#	5082 48#	5082 48#	since 04/19, last log 06/20
		x	x				0930		E11	03	6923 27#	6923 27#	6923 27#	6923 27#	since 02/14, last log 06/20
	x			x			1000		E11	03	8180 30#	8180 30#	8180 30#	8180 30#	since 11/16, last log 06/20
	x			x			1020		S11A	03	6977 42#	6977 42#	6977 42#	6977 42#	since 02/10, last log 06/20 2nd transmission Thu 1730z
x		x					1045		E11	03	8545 69#	8545 69#	8545 69#	8545 69#	since 03/18, last log 06/20
		x	x				1100		S11A	03	5149 37#	5149 37#	5149 37#	5149 37#	since 02/14, last log 06/20
	x	x					1205		E11	03	6304 46#	6304 46#	6304 46#	6304 46#	since 03/10, last log 06/20
	x				x		1345		E11	03	12984 91#	12984 91#	12984 91#	12984 91#	since 10/15, last log 06/20
x				x			1530		E11	03	5409 52#	5409 52#	5409 52#	5409 52#	since 05/15, last log 06/20
			x				1530		E11	03	10356 26#	10356 26#	10356 26#	10356 26#	since 06/14, last log 06/20 2nd transmission Mon 0745z
	x				x		1605		E11	03	5371 23#	5371 23#	5371 23#	5371 23#	since 11/15, last log 06/20
		x			x		1625		E11	03	7863 97#	7863 97#	7863 97#	7863 97#	since 02/15, last log 06/20
	x		x				<b>1645</b>		E11	03	14575 33#	14575 33#	14575 33#	14575 33#	since 06/17, last log 06/20 <b>until 05/20 1700z</b>
			x		x		1650		E11	03	12229 92#	12229 92#	12229 92#	12229 92#	since 05/16, last log 06/20
		x			x		1705		E11	03	4783 39#	4783 39#	4783 39#	4783 39#	since 02/14, last log 06/20
			x				1730		E11	03	8088 41#	8088 41#	8088 41#	8088 41#	since 03/10, last log 06/20 2nd transmission Mon 0450z
x					x		1745		E11	03	14410 24#	14410 24#	14410 24#	14410 24#	since 04/18, last log 06/20
		x			x		1850		S11A	03	12457 28#	12457 28#	12457 28#	12457 28#	since 06/17, last log 06/20
x			x				1900		E11	03	7600 64#	7600 64#	7600 64#	7600 64#	since 05/16, last log 06/20
				x	x		1910		E11	03	9610 61#	9610 61#	9610 61#	9610 61#	since 04/17, last log 06/20
				x	x		1930		E11	03	5082 36#	5082 36#	5082 36#	5082 36#	since 03/14, last log 06/20 2nd transmission Thu 1530z

**XPA1 Sched c and XPA2[Sched m & p] Russian Intelligence and/or Diplomatic Multitone Systems**  
**[Radiogramma] Transmission Schedules.**

Zulu >	XPA1 Sched c			XPA2 Sched m			XPA2 Sched p		
Month v	Tuesday/Thursday H+10 H+30 H+50 0710 / 0810z			Sunday/Tuesday H 00 H+20 H+40 1200/2100			Monday/Wednesday H 00 H+20 H+40 0700 / 0800z		
Jan	12157	13462	14374	10921	12221	13521	11493	13393	13993
Feb	13397	14413	15972	11163	13363	14563	13387	13887	14787
Mar	12132	13453	14576	13384	13984	14984	13931	14831	16131
Apr	10428	11431	13441	14442	15842	16342	11409	12209	13409
May	11169	12179	13431	13376	11576	10776	12148	13448	13948
June	11421	12151	13972	13427	12227	10827	12148	13448	13948
July	10446	11474	12175	13394	12194	10794	12148	13448	13948
Aug	10234	11511	12117	12159	11559	10559	12152	13552	13952
Sept	10862	11571	12216	13914	15814	16314	12152	13552	13952
Oct	12167	13437	14972	14469	16169	17469	13372	14672	15872
Nov	13978	14859	15871	14783	13883	12183	11529	13429	13929
Dec	11531	12137	13932	10807	12207	13507	11493	13393	13993

## SPECIAL MATTERS

### Thanks to all our contributors:

Ary, Edd, BR, CC, CQ, Danix, DanAr, E, HH, HJH, JkC, Jochen, KW, Malc, MaleAnon, Marmite, PoSW, PLdn, RC, RS, RNGB, Spectre,  
Apologies to anyone missed.



## MESSAGES:

**E:** Thanks your input. Pic on En120 cover. Stay safe!

## RELEVANT WEBSITES

ENIGMA 2000 Website:

<http://www.enigma2000.org.uk>

Frequency Details can be downloaded from:

<http://www.cvni.net/radio/>

More Info on 'oddities' can be found on Brian of Sussex' excellent web pages:

<http://www.brogers.dsl.pipex.com/page2.html>

Time zone information:

<http://www.timeanddate.com/library/abbreviations/timezones/>

Encyclopedia of Espionage, Intelligence, and Security

<http://www.espionageinfo.com/>

EyeSpyMag!

<http://www.eyespymag.com>

# 2020

January	February	March
S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
April	May	June
S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
July	August	September
S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
October	November	December
S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

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